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The Health Magazine

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Live with Heart Disease — and Like It!

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HYGEIA•

FEBRUARY 1937

THE HEALTH MAGAZINE

Published and copyrighted, 1937, by American Medical Association
Edited by Morris Fishbein, M.D.

Volume 15
Number 2

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the advice given by Dr. Louis F. Bishop Jr. and Ruth V. Bennett in answer to the cardiac victim's plaintive query, "What'll I do?" Dr. Bishop's previous contributions to Hygeia are "Preventing Heart Attacks" and "Heart Disease in Children."

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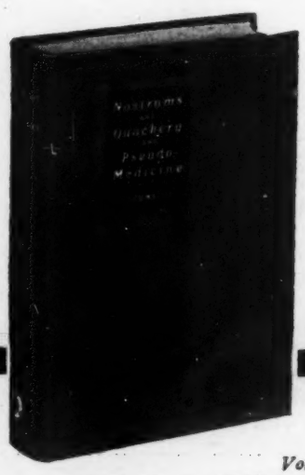

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It gives you an *entire new year*, to make of what you will! What's more, it gives you a kind of year we've not known recently; a year that says to you, "Things are picking up. Now is your chance to get more out of life—to obtain a larger measure of the things that make life most worthwhile."

It says that to every one. And it offers every one that chance. But as usual when there are good things and happiness to be got out of life, those in the best health, those with the most vigor, will have a definite advantage in getting them.

Are you in this fortunate group? If you are, what should you do to *keep* feeling your best? If you're not, what should you do to become your normal self once more? There is one person who can give you the help you need. That person is your doctor.

Perhaps the years you've been through have given some clue that all is not exactly as it should be within your body. Perhaps your nerves are jumpy . . . or sleep comes with difficulty . . . or you're over-weight . . . or you have frequent headaches.

Perhaps some such symptom has been trying to tell you that all is not well, but you've been too hurried or worried to do anything about it. How foolish to start this bright new year by *continuing* to ignore such warnings!

One of the wisest steps you can take in these early days of 1937 is to call upon your doctor. He can do more than any one else in the world to help you attain physical fitness. Even a single visit to him may make a world of difference to you—it's just about the best start you can have toward making *this* year *your* year!

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FEBRUARY 1937

The Gift of Health

WHEN A friend meets you on the street and says, "How are you?" he does not always want to know about the state of your health. This greeting is universal among all nations and tribes. It is an indication that health is always considered the most prized possession of mankind. When we really want to compliment any one, we say to him, "You're looking well!" That's another indication of the importance of health for a satisfactory life.

WHAT is "health"? It is a quality of life and living that renders the person who has it fit to live most and to serve best. The best life is a useful one. The German philosopher Nietzsche, embittered with life, advised people to live dangerously. To live dangerously, however, is not to live happily. Dangerous living is associated with constant fear and apprehension as to the length of life and as to its future. However, we should not try to live too safely! Life is to be used and not hoarded, but not wasted through unintelligence.

TODAY we appreciate more than ever before the gift of abounding health. We are subjected to more continuous, if not more varied, strains on our bodies than ever before in the history of mankind. Excessive activity of the brain, the heart and the muscles will interfere with the functioning of the body exactly as an engine too powerful for the motor car into which it is built may shake to pieces the frame or the chassis. A person in health is unaware of his body; his functions go on without disturbing him. He should know, however, that the first warnings of illness or of breakdown are slight warnings. Modern man, in his drive toward success and in his desire to live his life to the utmost, disregards the warnings that come from within which tend to inhibit him in his advancement.

EDITORIAL

★ ★ ★

The success of life or a career in a business or a profession is closely related to the period between the ages of 35 and 45 years. This is the period of maturity. After 45 years the body begins to wear down because of inability to reproduce itself. It is particularly between the period of 35 and 45 years of age that the first warning signs of breakdown may appear. These warnings should be heeded.

CONTRAST the man without the gift of health with the one who has it. The eyes of the former are dull and lusterless; his face is drawn, and underneath his eyes are the lines, puffiness and darkness that indicate fatigue and illness. His mouth falls open, and his teeth may be defective. Even his hair is rough, dry and without character. His skin lacks elasticity, and his muscles are flabby. When he walks his shoulders droop, and he presents the picture of weakness and despair.

What a contrast with the man who is fit. The physically fit person has clear eyes, good color and a happy expression. He breathes through his nose and keeps his mouth shut. His teeth are white and free from infection and from cavities. His skin is clear, firm and elastic. His muscles seem braced ready for action. His posture is erect with his shoulders squared so that he seems ready for anything. A healthy man stands tall; and when he moves, his whole being is springy and alert.

THINK of yourself as you read these two descriptions. Do you lack the gift of health? If you do, you can improve yourself by finding out what is wrong about your diet, your exercise, your rest and your personal hygiene. Heed the warnings that come from within. Detect disease in its earliest stages, and make your body and mind as healthy and efficient as they can be.

Live with Heart Disease —And *Like* It!

By LOUIS F. BISHOP Jr.
and RUTH V. BENNETT

Part I

THERE WAS once a little girl of tremendous energy who often intruded on her father's studious composure with her eternal question, "What'll I do? Oh! What'll I do next?" The father, exasperated, would explode, "Sit down and think, child, sit down and think!" Today we read of a Smith or a Jones, who after a long period of strenuous effort in carving out a career shows symptoms of one kind or another. He goes to his doctor and hears the sad news that he has heart trouble and must let up. What shall he do? Sit down and grouch? No, let him, like the little girl, sit down and think. Let him sit down and think how to dig up a few activities that will make him forget his heart ailment yet be within his strength. Unless the physician has a definite knowledge of what leisure really means he is unable to manage such an individual.

The heart specialist usually succeeds or fails in a given problem, depending on his ability as a psychotherapist. Granted that he may have an expert knowledge of such abstruse topics as electrocardiographic cardiovascular pathology and the action of various drugs on the heart; unless he is able to answer and guide his patients in their life when they may be confronted with restrictions and changes, he may fail in treatment and management. It has been remarked that the best prescription for longevity is to "give a man a heart condition and put him on a diet." The next step is to keep him busy within his limits.

The years of depression have focused the eyes of the world on the profitable use of leisure, and in turn the cardiologist has benefited by this knowledge. With this in mind one surveys with great interest what these activities are and how they may be applied to the individual with heart disease. In other words the leisure leagues and hobby clubs have been of tremendous help to physicians in the care of those patients whom disease has automatically restricted from ordinary activity of life.

Enforced by illness or otherwise, leisure looms large for everybody today, with Townsend plans, geriatrics, mechanized industry and so forth. Much attention has been given to occupational therapy as a means of filling the leisure time of children with heart disease, but the more mature person has not been considered, except by his own family or physician. Yet heart disease in middle and later life is a common ill of mankind.

Adult education suggests a variety of things a healthy person may adopt in his leisure, but selection is the consideration where a weak heart is concerned. It is just as important for a person with a heart ailment to keep busy as it is for a well person—and perhaps more so—for his interests are narrowed. How often a strong, active business man who retires, instead of "killing time" quickly kills himself! This often comes to pass because he doesn't know what to do with so much "time on his hands" as the song goes.

The heart specialist is frequently confronted with a difficult social situation at the same time he is prescribing leisure for his patient, a business man who is suddenly forced to stay in his home twenty-four hours a day with his family. The average man leaves his fireside in the morning and doesn't see his family till evening. His family is equally occupied with its own daytime interests apart from him. When such a man has to stay home for a time or indefinitely, on account of his heart, the home is at first more or less thrown out of gear for all concerned. The man has not learned to adjust himself to his family during the ordinary business hours of the day when the home to the eyes of the average male wears quite a different complexion.

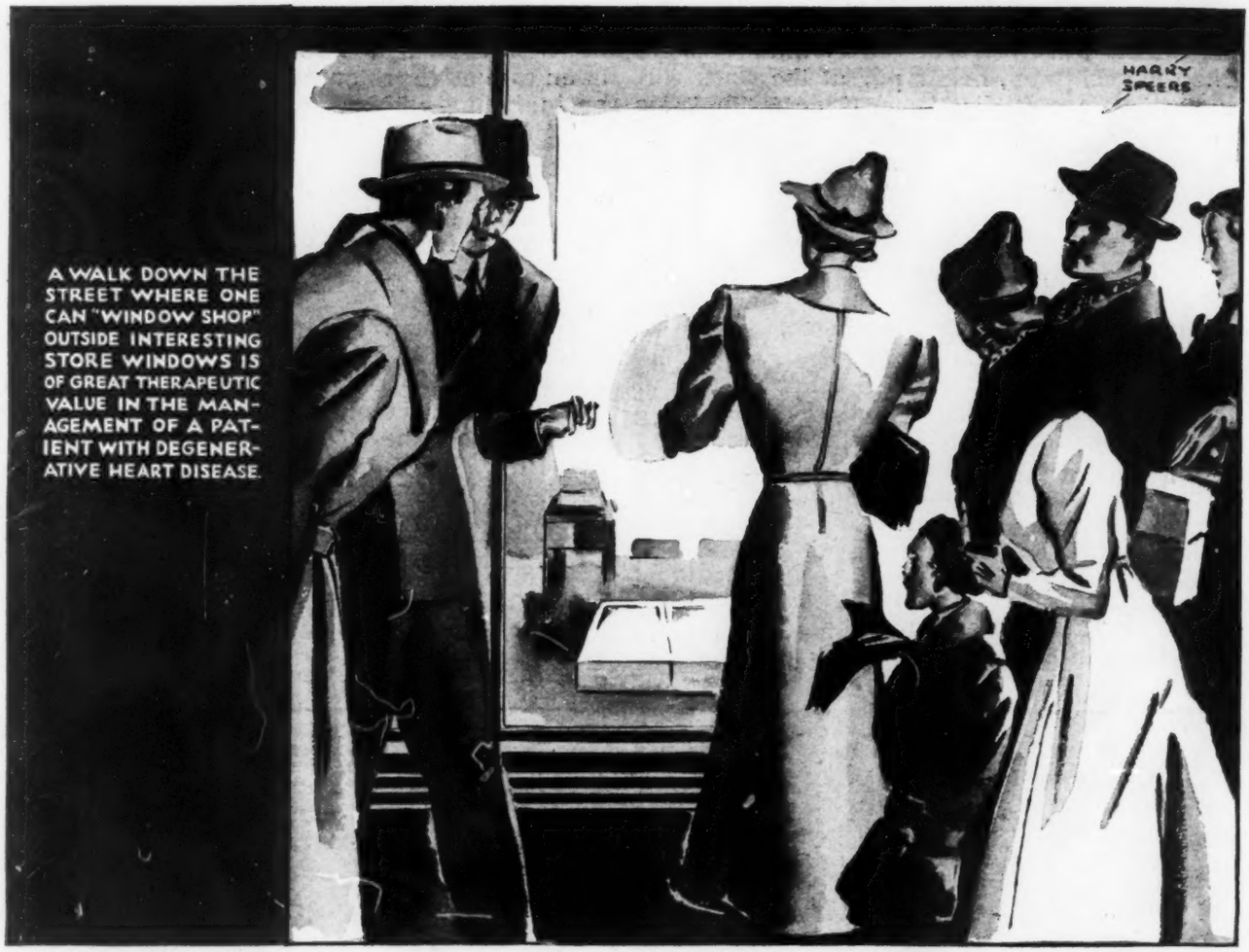
MANY families which have emerged from the recent depression will appreciate this condition only too well; that is, the adjustment necessary when a man usually occupied in the outside world is forced to be around the house all day. To see the wheels of domesticity actually turn is sometimes a boring experience for him. This unaccustomed activity in which he neither wishes nor is urged to take part is often a nerve shattering situation. Things that go on behind the scenes in the modern household seem to him

to be too detailed and noisy. Here the delicate adjustment must be instituted by the physician. Then too the man, below par at the start, will feel at first a trifle disconcerted to find that this smooth, well oiled home that he unquestioningly accepted at 7 o'clock dinner every evening was not quite the simple achievement that he took for granted. For real executive ability is essential at home as well as abroad. He will no doubt be irritated by the early morning bustle of getting the family started on its way, with pealing bells and noisy vacuum cleaner as accompaniment. But he will gradually realize that while the march of time has taken its toll of the song of the teakettle and the comforting creak of the rocking chair, mechanical ingenuity has given us the infinite variety of sounds that issue from the radio and the comforting whir of the electric icebox. And he will eventually grow to like it if he has something to do to keep him busy while adjusting himself to this modified existence.

One cannot forget that many persons receive with horror the edict of the physician that they have heart disease, while others simply gulp it down like a man who glances at his check in an expensive restaurant. Incidentally, telling an individual in the proper way that he has a defective heart is often the first step in the wise management of such a person; and moreover, few truly good physicians give what one might consider a grave verdict. But too often those attacked by heart disease handle themselves like mended china, and soon they break again! Therefore when a breakdown comes, occupation and management form an important part of treatment. Are you the sort of person, for instance, who is accustomed every morning on waking to let percolate through your returning consciousness the gloomy idea, "Oh, I remember, I have heart disease." Try pretending that the heart trouble is just a bad dream, and say instead, "What shall I *do* today?"

OF COURSE one must not swing too far in the opposite direction and allow too much freedom of activity for persons with damaged hearts. It is difficult to recognize the individual type to

HARRY SPEARS
TO SEE THE WHEELS OF DOMESTICITY ACTUALLY TURN IS SOMETIMES A NERVE-WRACKING EXPERIENCE TO THE BUSINESS MAN WHO IS FORCED TO STAY AT HOME



A WALK DOWN THE STREET WHERE ONE CAN "WINDOW SHOP" OUTSIDE INTERESTING STORE WINDOWS IS OF GREAT THERAPEUTIC VALUE IN THE MANAGEMENT OF A PATIENT WITH DEGENERATIVE HEART DISEASE.

whom the physician is prescribing this leisure, and this applies to the feminine as well as the masculine patient. Women, too, are often geared for high speed without consideration of their strength. A brittle little lady, 70-odd years young, confessed one day that she felt better, was quieter and took it easier since her physician had laid down the law to her. She had anginal pain in the heart region, and she admitted "He scared me, but I guess I needed to be frightened."

THE number of persons who have heart disease in one form or another is astonishingly great. How can the many persons who are living with impaired hearts occupy profitably their more or less enforced leisure? How can they make their lives productive to themselves and perhaps to others? St. Luke, the traditional physician of the Bible, coined many a meaty phrase, and one of the verses that a small boy selected to memorize because of its brevity was, "The light of the body is the eye." Have you ever watched the expression in the eyes of a lame boy, hobbling along with what nature has left of his legs after a scourge of infantile paralysis? His glance will be more alert than that of some pampered darling in her mink coat or of some bored old clubman who is worrying over the taxes he has to pay. What is it that buoys up the less fortunate people? Apparently the fighting spirit of swimming against the tide. Did you ever listen on a city street to the blithe lilt of a flute-playing blind man?

Noting the figures of a recent monograph published by the Metropolitan Life Insurance Company, one is certainly impressed with the fact that the cardiac sufferer is expected to live longer in the future. It might seem that we are much like the Utopian story, "The Coming Race," written many years ago by Bulwer-Lytton, except that in his fantasy there were no poor people. They consider excess riches an irksome responsibility. Now though most of us are poor, we live longer as a result of the advances of science and medicine, and living longer, our hearts are bound to wear out as well as the rest of our bodies.

Increased leisure puts the average person on his mettle to find inexpensive amusement. The healthy person may regard a little more sympathetically than formerly the leisure which is enforced on the sick; and in this category can be included those who are "sick at heart," spiritually, functionally or organically. In the tidal wave of suggestions for leisure activities I have had prepared a few human interest ideas that may help the Smiths and Joneses who are

told to "take it easy" on account of a heart handicap. In selecting these activities I have considered persons with varying aptitudes, sometimes with remuneration in view, sometimes without that objective.

The dictionary states that leisure spells "freedom from business," or in a different sense, "spare time." But the interpretation I prefer is "opportunity."

THE other day it was noted that for the first time in five years a certain company is again to conduct a training school for salesmen. New employees know nothing of the present-day methods of this big metal business. Go back a decade and read the words of Dr. Moon, heart specialist, in the London *Lancet* in 1924: "For a person with an impaired heart, the outlook for the absolutely unskilled laborer is unfavorable, but the tendency nowadays is for work to become less and less entirely unskilled." While this was written more than twelve years ago, it is true right now that business has improved, and many men out of work for four or five years have not been able to keep up with changes in machines. As Cromwell said, "Put your trust in God but keep your powder dry." It would certainly seem important for the physically handicapped to develop if possible manual dexterity. Clerical work is more suited to one with a handicapped heart, but all are not patterned to that mold.

Now there is a great class of young people, anywhere from age 20 to 40, who may have valvular disease, say, mitral stenosis after rheumatic disease, and whose exercise tolerance may be slightly diminished. In such cases, walking outdoors is often of great benefit.

As an outdoor activity, walking is usually practiced more widely than anything else, and the continuous drama of nature is never-failing in interest. It was amusing to read recently of the mailman who went on a walking tour for his vacation—the proverbial busman's holiday. Some do not enjoy walking unless they have something on which to focus interest. To a person unable to walk in the country, a walk in the city is often of greater interest. A walk down a street such as Fifth Avenue in New York City, where one can stop and look in the shop windows filled with objects of great interest, the so-called window shopping, is of great therapeutic value in the management of a patient with degenerative heart disease. Although it affords a short rest period of interest it is not a *conspicuous stop* in the walk, for any one, either with or without heart disease, will stop many times during a walk in a large city.

ANOTHER advantage of a walk in the city is gained in cases in which it is necessary for the physician to grade the walks of a man with heart disease. For instance the business man usually hurries to the nearest subway station to go downtown to his business every day. Instead of using this accustomed station the physician can urge him to walk in leisurely fashion one, two, three or four subway stations further before finally boarding the train.

Window shopping affords the observing woman ideas for new effects in clothes and in house furnishings. She *(Continued on page 125)*

SUITABLE ACTIVITIES FOR PERSONS WITH DEFECTIVE HEALTH

A

Adoption, support a nursery and place babies for adoption
Adult education for young mothers with heart disease
*Advertising layout
Adviser, psychologic
Alumni charities
Alumni reunions
Alumni anniversary funds for sport or educational purposes
Animals, grow, raise and barter
Anniversary college funds, organize and manage
Antiques, hunt for missing

B

Babies, place for adoption
Balls, selling golf
Barn, lease your, for summer theater
Barter your broilers, fruits or vegetables for groceries
*Birds for pets
*Books, collecting, reading, writing
*Boy, send, through college
Breed animals, dogs, minks, pheasants, marmosets
*Braid weaving
Broadcasting, study radio
*Bridge, honeymoon
Bridges, charity
Bulbs, raise iris

C

Cards, collect holiday cards for children's hospitals
*Cards, sell Christmas
*Career, follow some one's, by clippings
*Cats for pets
Charities, private, cake or bread sales, theatricals, bridges, white elephant parties
*Children, in hospital wards, make sweaters, dress dolls for
Children, homes for delinquent (supplement work of home)
Children, theatricals for charity, manage
Children, collect holiday cards for scrapbooks (hospital)
*Cocktail, 5 a. m., Manhattan
Coffee, sell, at summer theaters
Collecting, pebbles, contents of turkeys' crops, rocks, minerals, *safety razor blades, handles, antiques, *clippings, *books
City, walking in, window shopping for interior decoration or clothes
City, walking in, graduated exercise (subway stations)
*Composing music
Contents turkeys' crops, collecting
Country walking, mineralogy, nature specimens, decorations for home
Crops, collecting contents of turkeys' crops
Culture, voice

(To be continued)

* Activities which are suitable for the bedridden.

His Name Was Mudd

By ANNETTE FISKE

LINCOLN'S assassin, fleeing on horseback through the night of April 14, 1865, stopped at the charming southern home of Dr. Samuel A. Mudd in Maryland. In his leap from the President's box to the stage of Ford's Theater in Washington several hours before, he had broken his leg; and only after he had traveled 30 miles did he dare to stop for relief. His immense suffering so aroused the doctor's sympathy that after setting his patient's leg he invited him to rest for a few hours. Not many days later Booth paid the supreme penalty. His benefactor paid perhaps a higher price in the penalty exacted of him by an angry and, in this case, unjust government.

On Garden Key, one of the Dry Tortugas, 120 miles from anything that could be called civilization, Fort Jefferson stood, and there it still stands. No mention of it is made in the encyclopedia; yet it was the largest, most pretentious fort ever built in this country. Of the 25 acres of the key it occupied 20 and enclosed a parade ground of 14 acres.

Because the island lay so low, rising a bare 5 feet above the surrounding waters, a heavy wall of masonry was built to prevent it from being flooded. This wall enclosed a moat, stocked with man-eating sharks, that bathed the base of the fort's wall, which was 50 feet in height and in thickness.

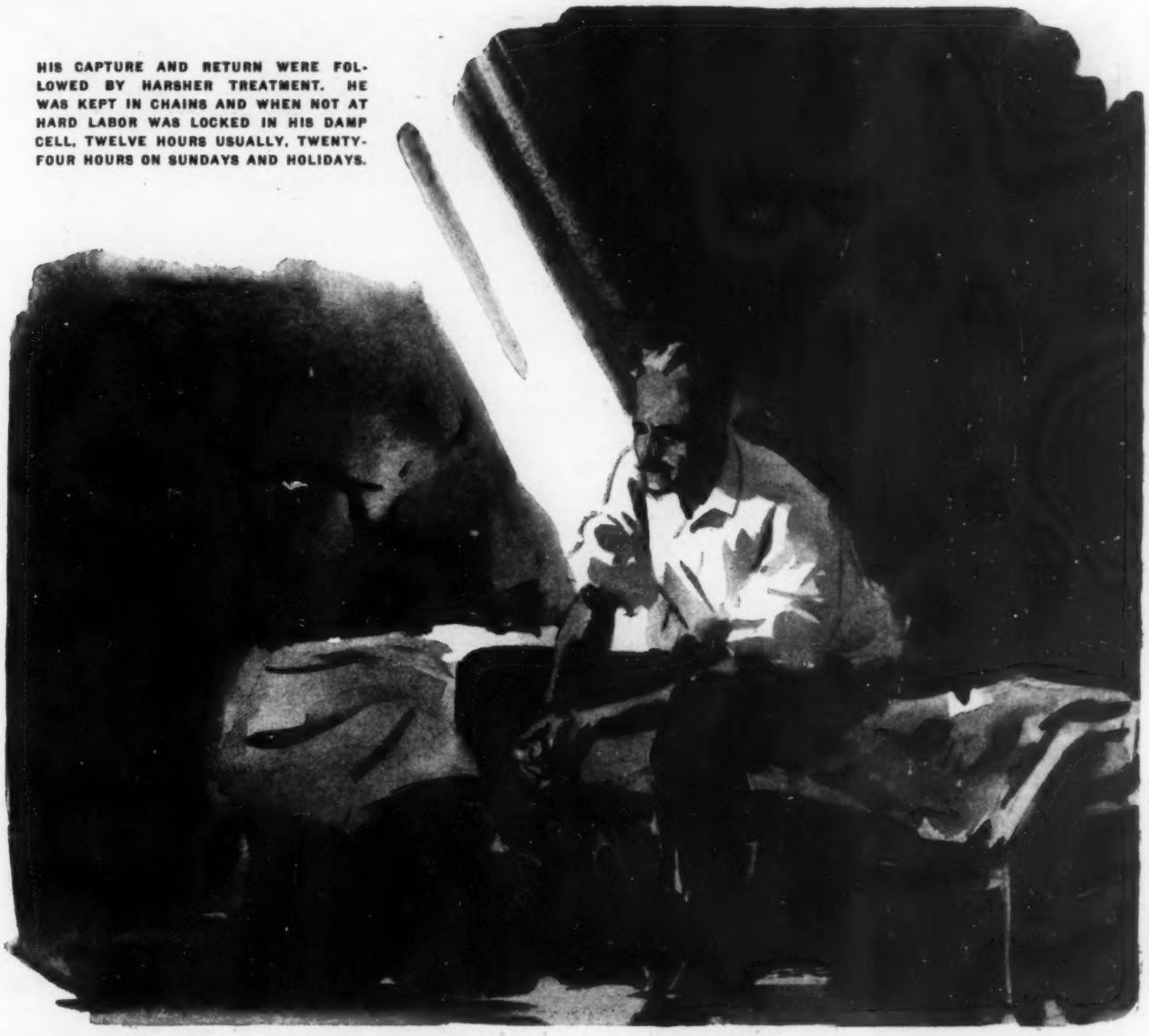
The officers' quarters were magnificent, with great fireplaces, gracefully curved stairways, sliding doors to the drawing-rooms, and numerous wood carvings, quarters not to be matched elsewhere. Perhaps the luxury was meant to reconcile the occupants to the dreariness of the location. At any rate various forms of entertainment were provided, as old letters tell of picnics to neighboring Bird Key, with Chinese lanterns hung from the boats and Negroes singing to the accompaniment of the banjo; they tell of fishing trips, of concerts and drills. In fact, any one with special talent was requisitioned for amateur theatricals.

From the broad walk on the top of the great wall one could look far out over the water to distant keys. "In the calm evening," an old diary states, "it is pleasant from the ramparts to watch the golden sun sink to rest, and just as it touches the edge of the horizon hear the bugles blow retreat." What a peaceful scene the words conjure up. Doubtless this was the pleasantest time of day, for during eight months of the year the heat there is terrific. Moreover, the mosquitoes breed in swarms in the cisterns that extend in a network beneath the fort. As the key lies directly in the path of cyclones, tales are told of the food being blown out to sea on its way from the cook house. Bits of coral at such times would be hurled through the air like sleet, and after the fort was abandoned the buildings were wrecked and the pieces tossed about and shattered.

In such a location, everything had to be brought from a long distance and, as building materials came from as far north as Philadelphia, the expense was enormous. Begun in 1846, it took fourteen years to build Fort Jefferson. The outer wall alone cost nearly a million dollars, and it was said that a dollar might be counted as the cost of each brick of the nearly 40 million in the whole fort. Food supplies, too, had all to be brought by water. What wonder, then, that complaints of poor fare were general, and that fruits and vegetables were extremely costly, cabbages being a dollar a head. What wonder that scurvy was of frequent occurrence, though yellow fever was the greatest plague.

BUILT as a bulwark against possible enemies following the great trade route that here entered the Gulf of Mexico, Fort Jefferson proved wholly ineffective. When the Civil War broke out it contained but a small garrison, and no guns were mounted. Only the sending of a large number of northern troops and the mounting of guns in some of its many emplacements prevented it from being taken over by the Confederates as a naval base. No real action took place there, however, and by the end of the war it was being used as a prison, especially for Confederate prisoners. To it Dr. Mudd was committed on a life sentence along with several of the actual conspirators who planned Lincoln's death.

Dr. Mudd's term of imprisonment might not have been so ghastly had he not tried to escape. Yet others brought back from such attempts were not so harshly treated. At first he was employed as a hospital orderly. Thought of the destruction of his home and the ruin of his family, aggravated by the ignominy of being guarded by Negroes, stirred him to attempt an escape. His capture and return were followed by harsher treatment. He was kept in chains and when not at hard labor was locked in his damp cell, twelve hours ordinarily, twenty-four on Sundays and holidays. His sight grew poor. He wrote to his wife of the suffocating heat, of



HIS CAPTURE AND RETURN WERE FOLLOWED BY HARSHER TREATMENT. HE WAS KEPT IN CHAINS AND WHEN NOT AT HARD LABOR WAS LOCKED IN HIS DAMP CELL, TWELVE HOURS USUALLY, TWENTY-FOUR HOURS ON SUNDAYS AND HOLIDAYS.

the millions of mosquitoes, fleas and other vermin that infested the island.

"We have three sentries at our door," he wrote, "that cry the hours of the night at the pitch of their lungs, destroying all sleep. . . . The engineers are digging out the breakwater, which gives rise to the most intolerable stench, preventing slumber. . . . We can't move more than five steps from our door without being followed by a sentry. We are fed like brutes and kept in chains under close guard."

WHEN, then, the fortress surgeon died during an epidemic of yellow fever in September 1867 and Dr. Mudd's offer of his services was accepted, the comparative freedom was a relief, though he had no time to give it thought. Almost every one in the fort was ill. Half those who went to Bird Key to bury the dead died before they could return. No vessel dared stop for fear of the infection. Toiling night and day the doctor could but act blindly, for of the real cause of the disease, of the manner of its conveyance, nothing was then known. Thus, the doctor wrote home, "Weather very calm and warm, causing no doubt the generation of the peculiar poison which gives rise to the disease." Again, "The first case occurred in Company K, immediately over the unfinished moat, which at low tide gave rise to offensive odors and to which the surgeon attributed the fever. The company was removed and the portholes ordered closed, to prevent the deadly miasma from entering." Dr. Mudd himself had the fever, resuming his duties as soon as he could get about. Yet as soon as the epidemic was over, he was chained again in his damp cell.

At last, in March 1869, Dr. Mudd was pardoned by President Johnson and returned, broken in health, to his ruined home. For thirteen years more he faithfully carried on his profession, dying at the age of 49 from pneumonia contracted while attending a patient at night in a severe storm. Bitter indeed had been the penalty exacted for kindly services to an unrecognized assassin.

Cosmetic Care of the Skin

By JOSEPH JORDAN ELLER

A HEALTHY BODY promotes a healthy skin. In order to attain this general state of well being, one should have a sufficient amount of normal rest and of outdoor exercise, a well balanced diet and normal elimination. It is highly advisable that every one should undergo periodic examinations so that the possible existence of any organic disturbances or other defects may be discovered.

Cosmetics are then employed to embellish one's appearance and should not be depended on to disguise poor health. For instance, an extremely dry skin may be due to some disorder of the thyroid gland. An abnormal redness of the flush areas of the skin, a condition which is called rosacea, may be caused by a disturbance of the stomach or the intestines. A sudden outbreak of pimples and blackheads may be due to an ovarian dysfunction. A greasy skin may result from an indiscretion in diet or may be caused by some disturbance of the thyroid or pituitary gland. The continued ingestion of certain cathartics which contain phenolphthalein may produce an abnormal pigmentation of the skin. The occasional use of bromides in seltzer or any other form may cause a stubborn eruption of pimples. Iodized salt, which is unknowingly consumed by a large part of the public, may also cause acne, an eruption of pimples on the face and other areas of the skin.

There is no general rule which can be followed regarding the use of cosmetics. The ideal method of selecting cosmetics would be to make a thorough study of each case and to choose the proper cosmetics for that particular individual's skin. Many cosmetics, used on skin which has already become sensitized to them, may keep the skin in a condition of constant irritation. Many persons show a sensitivity to orris root, which is a frequent ingredient of face powder. This should be eliminated from powders which are sold for general use. When perfumes or toilet waters containing oil of bergamot are applied and the skin is later exposed to the sun's rays, a peculiar pigmentation and eruption may occur.

PERSONS with dry and sensitive skins should avoid soap and water. Emollient cleansing creams should be substituted. On the other hand, a person with an oily, greasy type of skin should make frequent use of soap and water. There is no distinct advantage in the use of a medicated soap. A satisfactory soap is one that produces an abundant lather and contains a minimum of free alkali. The skin should be bathed as often as is necessary to keep it free from dust or grime, which accumulates at the openings of the hair follicles. Face and dusting powders should not contain any of the heavy metals, particularly lead, mercury or zinc. If powders are well pulverized and do not contain any of the harmful ingredients which have been mentioned, there is little difference in the efficacy of any on the market.

For the person with a dry, irritable skin the use of a cold cream at bedtime is advisable. Some persons have the erroneous belief that cold cream causes the growth of hair on the skin. It is my opinion that hair growth is not caused by the use of cold creams or any other emollient cream on the skin.

REGARDING the permanent removal of superfluous hair there is but one safe and sane method. This is by means of electrolysis, or the use of the galvanic current and electric needle, with which each hair follicle is individually destroyed. As a rule, this may be successfully attained without any pitted scars. However, if there is a heavy growth of hair and the follicles are situated close to one another it is practically impossible to remove the excessive growth without some degree of pitted scarring. The latter alternative is nevertheless more desirable than a hairy growth. Other methods are mentioned only to be condemned. For example, the permanent removal of hair growth by means of the x-rays is dangerous and harmful, as the dosage necessary to destroy a hair follicle will also injure the surrounding tissue. This also applies to the destruction and removal of hair with chemicals, because a chemical which is strong enough to destroy a hair follicle will also destroy the skin surrounding the hair. In addition, it may cause systemic poisoning due to absorption.

There are many temporary removers of superfluous hair. Of course, the safest method is by shaving, but the objection to this method is that a heavier stubble later appears. A waxy preparation in the form of a mold mechanically removes hairs, but here too there may be some irritation. Other chemical depilatories in the form of arsenious acid, thallium sulfate or barium sulfide can cause severe inflammation and general systemic disorders.

In order to make a proper investigation into the possible cause of superfluous hair growth a complete examination should be made from the standpoint of overactivity of the glands of

EXPOSURE OF THE SCALP TO SUNLIGHT FOR MANY HOURS, SUCH AS IS DONE BY THE LIFE-GUARD ON THE BEACH, NOT ONLY CAUSES FURTHER LOSS OF HAIR IN ONE HAVING THIS TENDENCY BUT MAY EVEN CAUSE BALDNESS IN ONE WHO HAS NEVER BEFORE HAD LOSS OF HAIR.

internal secretion so that any possible abnormality may be corrected. Dysfunction of these glands is often closely related to the growth of superfluous hair.

One of the chief factors in maintaining a healthy growth of hair is cleanliness of the scalp. As has before been mentioned, dust, grime, oily secretions and tiny particles of the outer skin covering are constantly being accumulated and tend to clog the openings of the hair follicles. These deposits in themselves may be the cause of subsequent infection and malnutrition of the hair roots. The hair should be thoroughly washed at least once weekly with any bland soap that produces a good lather. The greatest cause of baldness is dandruff, or seborrhea, which may be dry or oily. Daily gentle finger massage or the application of a hair brush, the bristles of which are not too sharp, may aid in increasing the local blood supply to the hair. When seborrhea is present, stimulating lotions should be regularly employed, preventing in many cases further loss of hair.

THERE is a fallacious opinion held by laymen that exposing the scalp to the sunlight makes the hair grow more thickly and is beneficial. The contrary is the case, particularly if the person has a tendency toward premature baldness. Exposure of the scalp to sunlight for many hours, such as is done on the beach or the golf course, not only causes further loss of hair in one having this tendency but may even cause baldness in one who has never before had loss

of hair. An example of this is frequently seen in lifeguards, who do not wear hats and are constantly being exposed to the sun. Many of these young men have become prematurely bald. There is a familial tendency toward premature baldness, in which all the male members for successive generations become bald at a certain age. This undoubtedly is due to a hereditary change of the glands of internal secretion that control hair growth. It is hoped that scientific medicine will in due time be able to find a solution to this problem.

The use of hair dyes dates back to antiquity. Hair dyeing is in great use today. When it is not for the sole purpose of gaining a more youthful or different appearance, it is sometimes of necessity for economic reasons. Many persons have been able to use hair dyes over a period of years without apparent harm. There is, however, a fairly large percentage of persons whose scalp and skin do not tolerate hair dyes. It must be understood that some types of hair dyes are less harmful than others.

The reaction of hair dyes on the hair and scalp differs materially according to their composition. First, there are the vegetable dyes, which are the safest, and among them may be mentioned henna, indigo, wood extracts and herbs, such as sage and camomille. The second is the metallic group, which includes lead, silver, copper, bismuth, cobalt and many others. These, in addition to causing external irritation, may cause systemic poisoning due to absorption, particularly if a high percentage of the metal is present. The synthetic aniline dyes, such as paraphenylendiamine are the greatest offenders and cause many cases of severe dermatitis. Hydrogen peroxide and ammonia water combined are used for bleaching the hair a light blonde. There may be local irritation in susceptible persons, and after prolonged use the hair may become dry and brittle.

I do not decry the use of hair dye, because in many cases it materially aids in improving the appearance, making the users look more youthful, giving them more confidence, aiding in maintaining their occupations or in obtaining ones in which a more youthful appearance is necessary. However, the subject for hair dyeing should avoid the more dangerous types, and each person should be individually tested with small amounts on small areas of the scalp in order to ascertain their reaction. In addition, periodic examinations should be made to avoid untoward reactions resulting from accumulation. As a rule, the vegetable dyes are the safest, and they should be the ones of choice. When others are used the chemical composition should be ascertained.

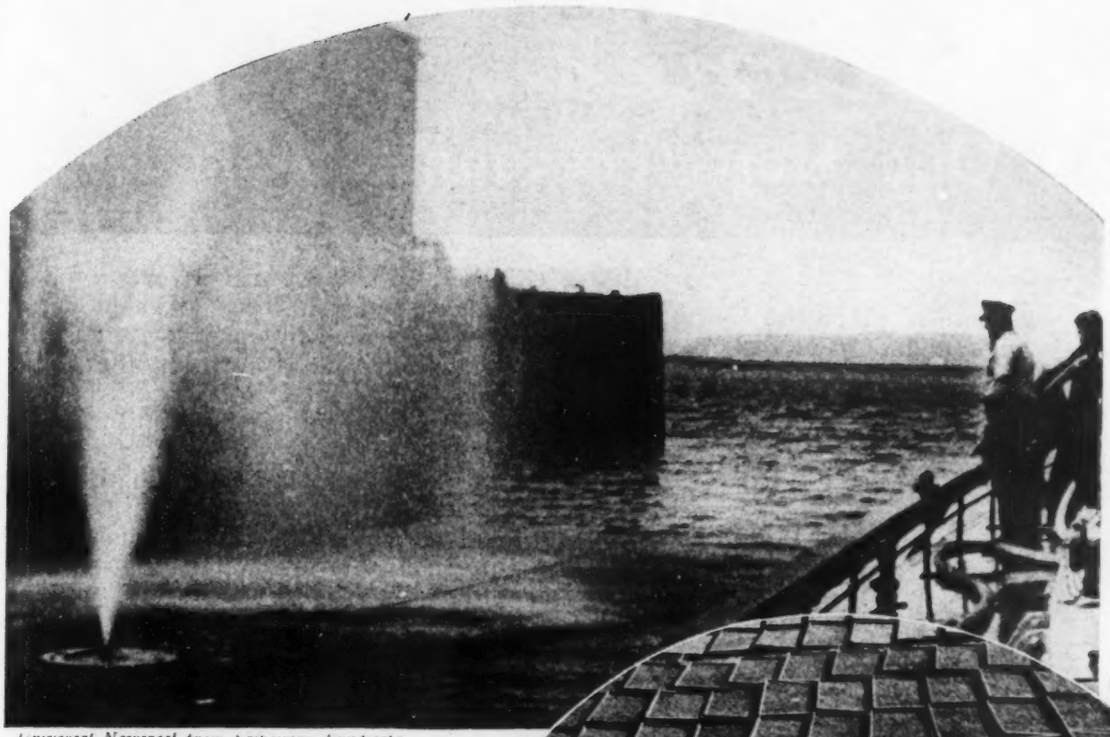
Water waving of the hair as a rule is harmless. A few words might be added regarding the so-called permanent wave treatment. This heat-curling method does not by any means contribute to the health of the hair, for its repeated use has a drying effect on the hair, causing brittleness and even loss. It is absolutely advisable that, before beginning such manipulations, a small portion of the hair be tested to ascertain whether it will withstand the foregoing treatment without ill effects. There are millions of women who take these permanent wave treatments with no apparent bad results, but all preliminary precautions should be taken.

The removal of birthmarks should always be done by an experienced physician. Many fantastic stories have been offered with regard to the origin of birthmarks and have been accepted as folklore; these include sudden fright of the pregnant mother after having seen a mouse, with the resulting dark brown pigmentation; or the strawberry marks and port wine birthmarks in the child, attributed to the fact that the mother witnessed flames. These are all fallacious. The real cause of birthmarks is not known.

Birthmarks are of two types, the blood vessel birthmarks and the pigmented, which are the moles. The blood vessel birthmarks when flat and level with the surface of the skin are called port wine marks. These may be lightened in color by means of applications with carbon dioxide snow, which is the only safe form of treatment for them. The raised blood vessel birthmarks, medically designated cavernous angiomas, are quite amenable to treatment and can be made to disappear satisfactorily in the majority of cases by means of radium or carbon dioxide snow.

The pigmented moles may be hairy or nonhairy. If they are hairy the hair must be removed by means of electrolysis before the mole is treated; otherwise an unsatisfactory scar will result. However, the blue-black or slate-black mole offers a serious problem. If a decision is made to remove it, which should always be done if it is growing or is located in an area subject to irritation, a radical operation must be performed followed by radium or x-ray treatment. A black mole of this type is called a melanoma. If mismanaged it gives rise to a most malignant type of cancer, which spreads rapidly to other parts of the body, causing early death. If the mole is widely excised and properly treated the chances for a permanent good result are excellent, particularly if the mole is still localized. However, the black mole should never be removed for cosmetic reasons alone but only for the purpose of avoiding further cancerous growth.

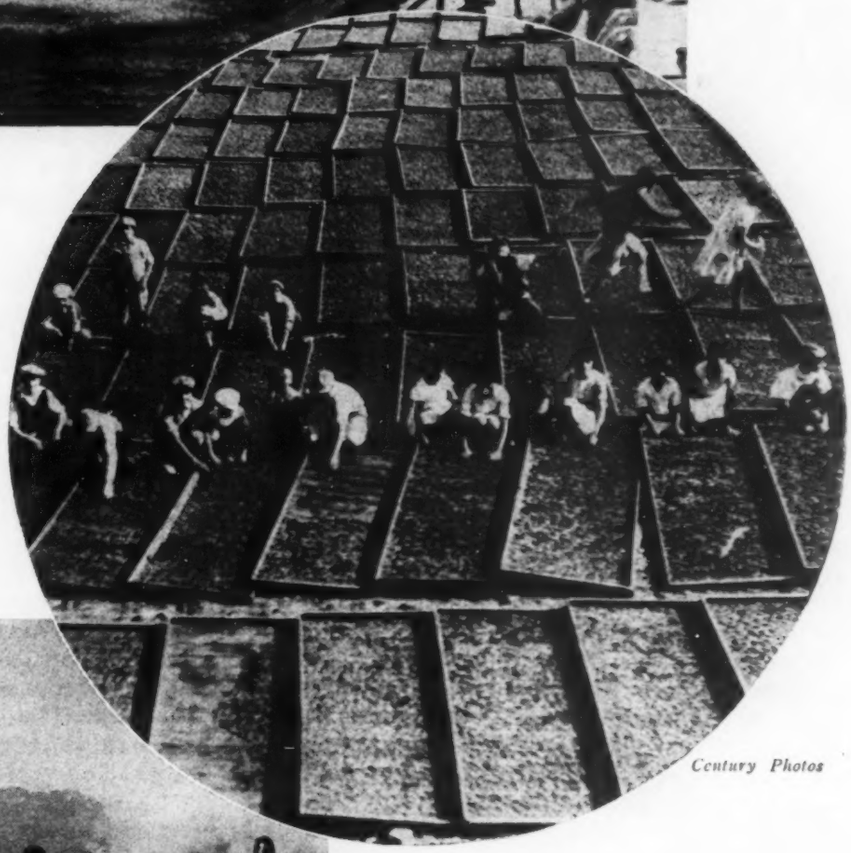
It must always be remembered that a healthy body and good hygiene should be given the first consideration in the cosmetic care of the person.



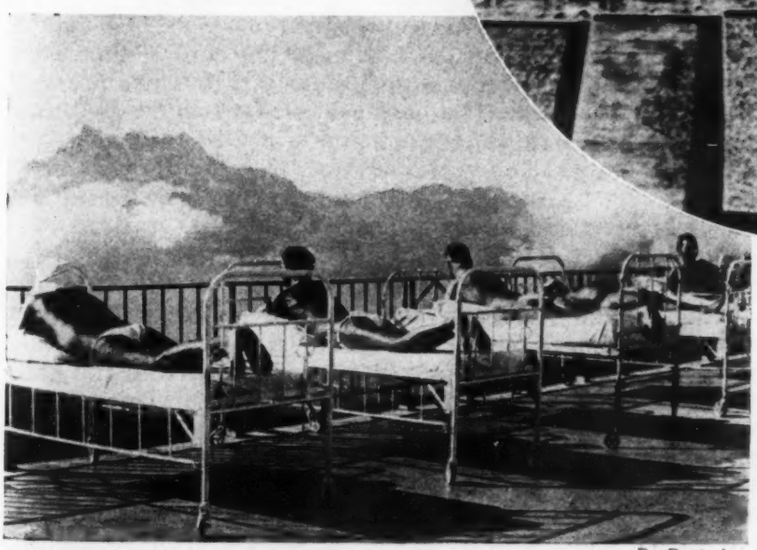
Universal Newsreel from Sobelman Syndicate

THE FIRE DEPARTMENT OF SEATTLE HAS ADOPTED THIS UNIQUE DEVICE WHICH WILL FACILITATE FIRE FIGHTING UNDER THE DOCKS AND WHARVES. IT MAY BE GUIDED FROM A DISTANCE OF 400 FEET.

TONS AND TONS OF APRICOTS ARE DRIED ANNUALLY ON THIS FARM, THE LARGEST OF ITS KIND IN THE WORLD. THE SHALLOW TRAYS ARE FILLED WITH THE FRUIT CUT IN HALF AND DRIED IN THE SUN.



Century Photos



D. Deutsch

HIGH MOUNTAIN AIR AND SUNSHINE ARE PART OF THE TUBERCULOSIS TREATMENT ADMINISTERED AT THIS CLINIC IN LEYSIN, SWITZERLAND.

Gallstones
Some Questions Frequently Asked —

Where is the gallbladder?

To locate the gallbladder, place the tips of your fingers on the right side of your body just below the lowest rib. Move the fingers toward the center line of your body, and when they are about 3 inches from this center line, your fingers will be resting directly over the gallbladder. This is a hollow organ about the size and shape of a pear with the big end upward. It is attached directly to the liver, the largest internal organ in the body. The liver works every minute of the day throughout an entire lifetime. It manufactures juices and stores them in the gallbladder in concentrated form until the part of the small intestine known as the duodenum, which is close by, telegraphs up for a fresh supply of these juices, which are called gall or bile. Thereupon the gallbladder sends down a supply through a little tube to the small intestine. It is then immediately put to use to help digest the food. Its action is particularly beneficial in the digestion of foods containing fats.

What are gallstones?

Gallstones are just what their name implies—little masses of solid substance formed out of the bile that is stagnant or diseased.

How large are gallstones, and what causes them to form?

Gallstones range in size from that of a grain of coarse sand to that of a small hen's egg. Several hundred small ones may be present.

There are two causes for gallstones. When the tonsils, sinuses and appendix become diseased the germs may get into the gallbladder by way of the blood stream and infect the bile. These germs cause an inflammation of the gallbladder and its contents, bile. In this way, gallstones are formed. Typhoid may cause gallstones to form, years later.

The second cause arises from wrong habits of eating, such as overeating, eating too rich and irritating foods, eating too often or too hurriedly, and especially eating too much fried food, butter, cream or cheese.

Is there any difference between the susceptibility of men and women to gallstone trouble?

Women have gallstone trouble much more often than men, especially women who have borne children. It is not unusual for a woman who is pregnant and who has gallstones which never before caused symptoms, to have gallstone attacks while she is carrying the child. The reasons why women are more frequent sufferers from gallstones may be found in a lax condition of the abdominal walls, tight corseting, constipation, sedentary life and inflammatory pelvic conditions. Also, 30 per cent of gallstone patients have appendicitis, which probably was the forerunner of the formation of the gallstones.

Can persons of any age have gallstones?

Yes. There are numerous cases on record in which young children as well as very old people have been found to have gallstones. However, gallstones occur much more frequently between the ages of 30 and 50, and especially between 40 and 50.

What is the chief symptom of gallstones?

The patient first complains of indigestion.

What is indigestion?

Indigestion means, to the average individual, a great variety of unpleasant sensations, such as loss of appetite, heart burn, sour taste in the mouth, gas on the stomach, belching of gas, a bloated feeling and fulness after eating, nausea, constipation or diarrhea. Part or all of these symptoms may be present. In other words, the digestive processes are not working properly because the machine is out of order. Of course an x-ray picture will, in 80 per cent of the cases, show gallstones quite clearly if they are present. If only soft stones are present, however, they may not show up in the x-ray picture.

What is the cause of sudden attacks of nausea in a person who has gallstone trouble?

That condition is called gallstone colic. It is much like the traditional story of the little boy who has been eating green apples. A sudden sense of pain is caused by a gallstone getting caught in the small tube leading from the gallbladder to the small intestine. This causes severe pains in the pit of the stomach; in fact it is one of the severest pains to which man is heir. It may also cause sharp pains originating just below the right shoulder blade and progressing into the right shoulder. Along with this,

And Their Answers

By FRANK H. BAEHR

the patient may have chills, fever, nausea and vomiting. Sometimes the pains even cause the patient to double up.

Why is it that when some sufferers from gallstones have an attack, or colic, their skin turns yellow?

That is again due to a gallstone getting caught, not in the little tube leading from the gallbladder to the small intestine but in the tube leading from the liver to the small intestine. The liver sends the bile which it manufactures down a small tube which connects with the tube coming from the gallbladder. If this little tube from the liver should become blocked off by a gallstone the bile cannot get into the gallbladder for storage and therefore cannot get down to the small intestine to aid in digesting food. If the bile from the liver cannot reach its destination it stays in the liver, and then the blood stream takes up this bile and breaks it down into its component parts. The pigments present in the bile, which are now in the blood stream, stain the skin and the eyeballs yellow. This is known as jaundice. Some persons call it yellow jaundice, but jaundice means yellow.

Is it possible to get any immediate relief from gallstone colic?

Relief may be gained in only one way; that is, through the use of a narcotic. That causes the caught stone either to return to the gallbladder or proceed into the small intestine.

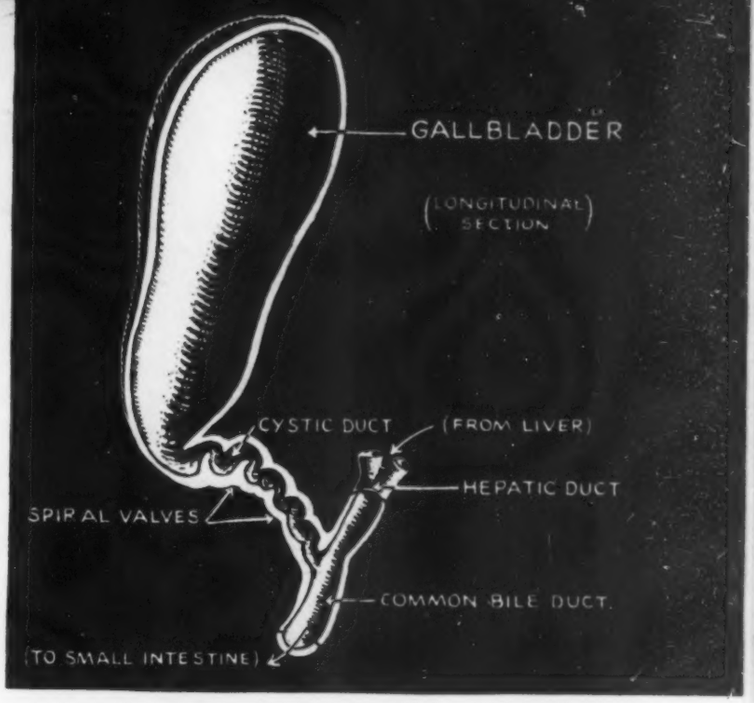
Is it true that to victims of gallbladder disease some foods are more distressing than others?

Yes. Those who have gallbladder disease frequently suffer from symptoms of indigestion following the eating of cucumbers, fried foods and raw apples. Any surgeon who has handled a large number of gallbladder cases knows that food of this kind unfortunately causes some sudden and exceedingly painful reactions.

Is it possible to dissolve gallstones?

No, it is not possible. Some persons have received circulars through the mail advertising remedies to dissolve gallstones. This often has tragic results because gallstones cannot be dissolved.

After removal of the gallbladder can normal health be maintained?



Yes. If the gallbladder is removed by surgical procedure, the liver seems to be willing to assume some of the work of the gallbladder and supply the small intestine with whatever bile is needed when it is called for. The gallbladder frequently causes much trouble, and fortunately it can be taken out, just as the appendix can be removed, without harm to the digestive system.

What happens if a patient has gallstones and does not have them removed?

If gallstones are not removed a person may have chronic indigestion for years. This leads to a gradual breakdown in health and ultimately shortens the patient's life. There are two other even more serious consequences: cancer and peritonitis. When arthritis, or rheumatism of the joints, is caused by gallstones, which is often the case, the timely removal of the gallstones will eliminate the arthritis. Many persons fail to associate arthritis with gallstones.

Many of those who suffer with disease of the gallbladder could be saved hours of pain and much ill health if they would have the courage to admit the actual facts of the case and be willing to have a surgical operation. Many who have profited by this advice are now living happily and comfortably.

STOP HIGHWAY CARNAGE!

The Red Cross Takes Steps to Terminate Traffic Tragedies

UNABLE TO ALTER THE DRIVING NATURES OF THE CRIMINALLY RECKLESS, THE RED CROSS PROVIDES STATIONS TO CARE FOR THEIR VICTIMS.

Photos, courtesy of American Red Cross

By
S. R. WINTERS

THE FULFILLED dream of automotive transportation for the "man in the street" has become a nightmare of destruction for the man on the highway. When the 36,400 automobile deaths of 1935 crashed into public spotlight there arose an insistent demand from all parts of the country for some action to prevent this highway carnage. The American Red Cross, always in the vanguard in times of national calamity—and traffic casualties had become a national calamity—answered with the establishment of 1,400 highway first aid stations throughout the country.

It is not within the power of the Red Cross or any other organization to alter the natures of the criminally reckless, thoughtless or incompetent drivers or to establish uniform traffic laws to remedy the situation, but it can, and does, use its facilities for first aid work in a courageous and humane war on death on the highways. It can, as has been shown during the past year, save the lives of crash victims by expert application of first aid at the scene of the accident.

Red Cross first aid posts have been established at strategic points along the busy highways, at service stations, tourist inns, rural police stations and fire departments. To complement the stationary posts a mobile unit of several thousand trucks vigilantly patrols the highway. These cruising hospitals have the obvious advantage of reaching the scene in a hurry when the accident does not occur close at hand. Their drivers and crews must pass courses in both standard and advanced first aid. Each truck bears a marker identifying it as a Red Cross mobile first aid unit.

Thirty-two Delaware highway maintenance trucks, Kent County division, comprise the first organized unit of the Red Cross highway patrol. One hundred and eleven employees of the Bangor, Maine, Hydro-Electric Company have just concluded first aid training, and the company's fleet of thirty-seven vehicles constitutes the second unit. State highway and public utility trucking groups in other states are completing training and instruction, and soon a fleet cordon of motorized Red Cross first aiders will rumble over macadam and concrete. The highway police of eight states, who have already finished first aid courses, will soon join this modern motorized army in its fight on driving deaths.

The personnel of these stations are men and women thoroughly trained in a knowledge of "what-to-do-till-the-doctor-comes." They know, first of all, how to make a quick diagnosis; they can tell shock when they see it, and they know how to treat it. They know how to stem the flow of blood from a wound, how to splint a fractured long bone and how to disinfect burns to minimize danger of blood poisoning.

More important still, they are soundly drilled in what not to do. They know, as the average

well meaning bystander rarely does, that it is often better to leave the injured person in the position to which he has been thrown than to risk punctured organs and internal hemorrhage by lifting him quickly and inexpertly and placing him in a passing car to be rushed to the hospital. More victims are lost than saved by these improvised ambulances. Injuries range from crushed chests and fractured skulls to severe burns and compound fractures of the limbs. Half of these accidents are the kind which unskilled treatment or no treatment at all might have converted into fatalities.

THESE highway minute-men have been selected with care and have been thoroughly trained in standard Red Cross first aid methods. Each Red Cross chapter is responsible for the operation of the emergency stations in its territory, and it assists in periodically checking the stations in order to maintain a maximum peak of efficiency. This service to the motoring public is without charge, and the men and women manning the stations are volunteers. First aiders are not physicians; they are the advance agents of the physician, and in many cases were it not for their emergency training, swiftly applied, there would be no need for a physician. It is a comforting thought that if you are in an accident where the immediate attention of a doctor is impossible, you need not die because some sympathetic but ignorant bystander bundles you clumsily into a passing car and causes fatal arterial bleeding.

One of the highway first aid stations established by the Toledo, O., chapter recently reported the following accident which occurred on the Dixie Highway near Perrysburg: Two persons were killed and six seriously injured when a touring car failed to stop at an intersection and crashed into the side of a Cincinnati and Lake Erie bus. The smaller car was hurled 150 feet, landing against the side of the home of the attendant of a nearby gasoline service station. Providentially, this man was a Red Cross trained first aider. Let him tell the story:

"I LOOKED out and saw this huge bus spinning over. It looked as if it were not going to stop until it landed on top of the station. Then I saw the sedan in flames over against my house. I rushed into the house, brought out the fire extinguisher and put out the blaze, then dashed over to the bus and started pulling out the six victims, most of whom were unconscious.

"One woman had been hurled through the window from the side of the bus and was lying a few feet away with a crushed skull. When

FIRST AIDERS ARE NOT PHYSICIANS: THEY ARE THE ADVANCE AGENTS. IN MANY CASES WERE IT NOT FOR THEIR EMERGENCY TRAINING AND ITS SWIFT APPLICATION THERE WOULD BE NO NEED FOR A PHYSICIAN.

FIREMEN AND POLICEMEN OFTEN ENCOUNTER EMERGENCIES WHERE A KNOWLEDGE OF FIRST AID IS ESSENTIAL.

I ascertained she was dead, I centered my attention on the others. My assistant rushed to the telephone and called three ambulances and two of the nearest doctors whose names were on a list which each Red Cross station must keep up to date. He then called the State Patrol, which arrived immediately and cleared the crowd so that we could give first aid to the victims.

"One of the occupants had been hurled from the other side of the bus. Several of her ribs were torn from her vertebrae. We placed her in a more comfortable position and administered first aid. One by one we gave emergency first aid treatment to the victims until the ambulances arrived. I am certainly glad that I had my Red Cross first aid training, as both my assistant and I were able to relieve a great deal of the pain and suffering of the crash victims."

EACH day the Red Cross national headquarters receives reports filed by attendants of first aid stations in which they detail the assistance given to the victims of highway accidents occurring near the station. Descriptions of the injuries show that at least 50 per cent of these accidents are serious. There is this report of an accident which happened on Christmas eve near a large Eastern city: An old gentleman and his elderly wife were driving along at a comfortable pace watching the holiday lights twinkling out across the open fields and happy in the thought that soon they would be united with their children and friends. But fate held a tragic alteration of their plans in store for them. A first aider driving in the vicinity caught a glimpse of their car as it careened from the road and crashed into a tree. He also saw the high-powered dark sedan, traveling at a terrific speed, which had screeched around the turn, "sideswiped" the old couple's car and hurled it from the road.

When our Good Samaritan reached the mangled machine the sight which greeted him was not a pleasant one. The driver had been thrown against the window at his side. His wife had gone through the windshield. Both were unconscious and bleeding profusely from severe lacerations of the neck and head.

His wife assisting, the first aider lifted the two injured and unconscious persons to the ground, where in a few seconds he stemmed the flow of blood from the man's wounds by applying pressure to the large blood vessels in the neck. He showed his wife how to care for the woman in the same manner. In less than ten minutes the injured man and his wife were propped up in the front of the Red Cross worker's car, once more bound for the city.

THIS AIRPORT ATTENDANT IS RECEIVING HIS CERTIFICATE WHICH AUTHORIZES HIM TO ADMINISTER RED CROSS FIRST AID.

They had their reunion, but it was in the ward of a city hospital and even then only because of the presence of a first aider whose emergency training enabled him to deal with such a crisis.

An hour later, their wounds carefully sutured and bandaged, they were wheeled from the operating room and sent to a convalescent ward. Standing in the door of the emergency room as the two stretchers were taken away, a white-garbed doctor peeled reddened gloves from his hands and slowly shook his head at the waiting first aider.

"Man," he said, "I don't know who you are or what those old people mean to you; but I can tell you one thing, they have you to thank for the fact that they're being taken to the ward and not the morgue. They wouldn't have lasted ten minutes if you had not known how to stop that bleeding."

THIS story has its counterpart in hundreds of highway crashes every year; but, as the tragic toll of 36,400 dead mutely testifies, the victims are seldom fortunate enough to have the ready ministrations of first aid workers. That figure—36,400 dead—tells whole volumes of heart-breaking stories. They are all there in the record, each one a bitter, tragic blow to some family circle, each one leaving a scar which even time will never heal, which the future will never erase. The Red Cross is determined to change the picture of this wholesale slaughter. How many lives could be saved if only it could educate the public in how to care for the injured!

A few years ago industrial accidents causing death and permanent injury were happening with a frequency equal to that of automobile accidents today. Men lost their lives, limbs and sight in unguarded machinery, falls and explosions in such great numbers that employers and insurance companies decided something drastic must be done. An organized safety program was put into action in almost every manufacturing plant and industry. Accident records were studied, and ways and means of preventing similar mishaps were put into action. Machinery was guarded; railings were put around platforms; goggles and protective clothing were furnished, and their use was made mandatory. Each factory had its safety committee, and each man was made a part of the safety setup.

The Red Cross was one of the pioneers in this field, training entire industrial groups in first aid. Employees learned to talk, walk and live safely. As a result those factories where a man a month was being killed are now going years without a fatality.

THERE is no difference between the science of industrial safety and that of highway safety. Accidents in the home and on the farm are second only to those of the highway as the nation's greatest annual breeder of needless death and suffering. Local chapters of the Red Cross are forming special committees to spread accident prevention knowledge to every county and town. Annual home inspection campaigns are conducted through school children, and safety information is being spread by newspapers, radio, lectures, civic groups and other available information channels in this movement.

To educate the public on safety requires more than warnings against injury and careless driving. They must be taught how accidents occur, and how they could have been prevented. The Red Cross is teaching its adult first aiders how to prevent accidents as well as how to handle them, and it is seeking to have similar information inculcated in the minds of school children throughout the land. *(Continued on page 154)*

SIGNS ARE PLACED ON BOTH SIDES OF THE ROAD TO MARK THE STATIONS.

WHILE THE AMBULANCE IS SPEEDING TOWARD THIS CASUALTY, FIRST AID "MINUTE-MEN" ARE ADMINISTERING CORRECT TEMPORARY CARE.

How MEDICAL DISCOVERIES Are Made

By PHILIP REICHERT

SOME YEARS ago when I was up in the Maine woods I met a most amusing fellow. He was one of the old guides, and the natives up there said that he was quite a doctor. They did not mean of course that he was practicing medicine but that he was often able to help with home remedies for minor ills; and sometimes when there were accidents and doctors were inaccessible during the winter, they would call on him for aid.

As soon as he found out that I was a doctor we became very friendly, and he teased me about what he called newfangled medicine. When we were a little better acquainted he finally confided that he had made an important medical discovery. I was naturally interested, and after a good deal of patient and tactful conversation he told me all about it. He had found out a sovereign remedy for all kinds of aches and pains in the joints. It was a mixture of lard, woodchuck fat, bear grease and many other things. It was to be rubbed on when it was warm and massaged in thoroughly, and everybody in the whole countryside said that it took the pain right out of the joints.

It would be hard to classify that as medical discovery, wouldn't it? Yet why isn't it? You could not tell anybody up in the Maine woods that it wasn't a great discovery. They had pains in the joints, and he treated them with this concoction, and they got well. That's all that any medical discovery can do.

Then you might ask, wouldn't that be a good thing to find out about and report to the whole world, so that other sufferers can be benefited? How is one going to know whether this old fellow up in the woods really has a brand new idea or whether it is just nothing at all? How can one tell whether or not a man has made a real medical discovery? What criteria do doctors use when a new remedy or a new idea about disease comes out? How would the physician go about finding out whether or not this old guide has something real? It is not a simple matter, and yet it can readily be explained in a few words.

In the first place, the composition of the remedy would have to be examined. This one was a mixture of a little of this and some of that. The ingredients were definite enough, but the "quantities were not important," the old man said. In fact, he admitted that it didn't always come out the same way when he made it, although he insisted that that point did not interfere with its efficiency.

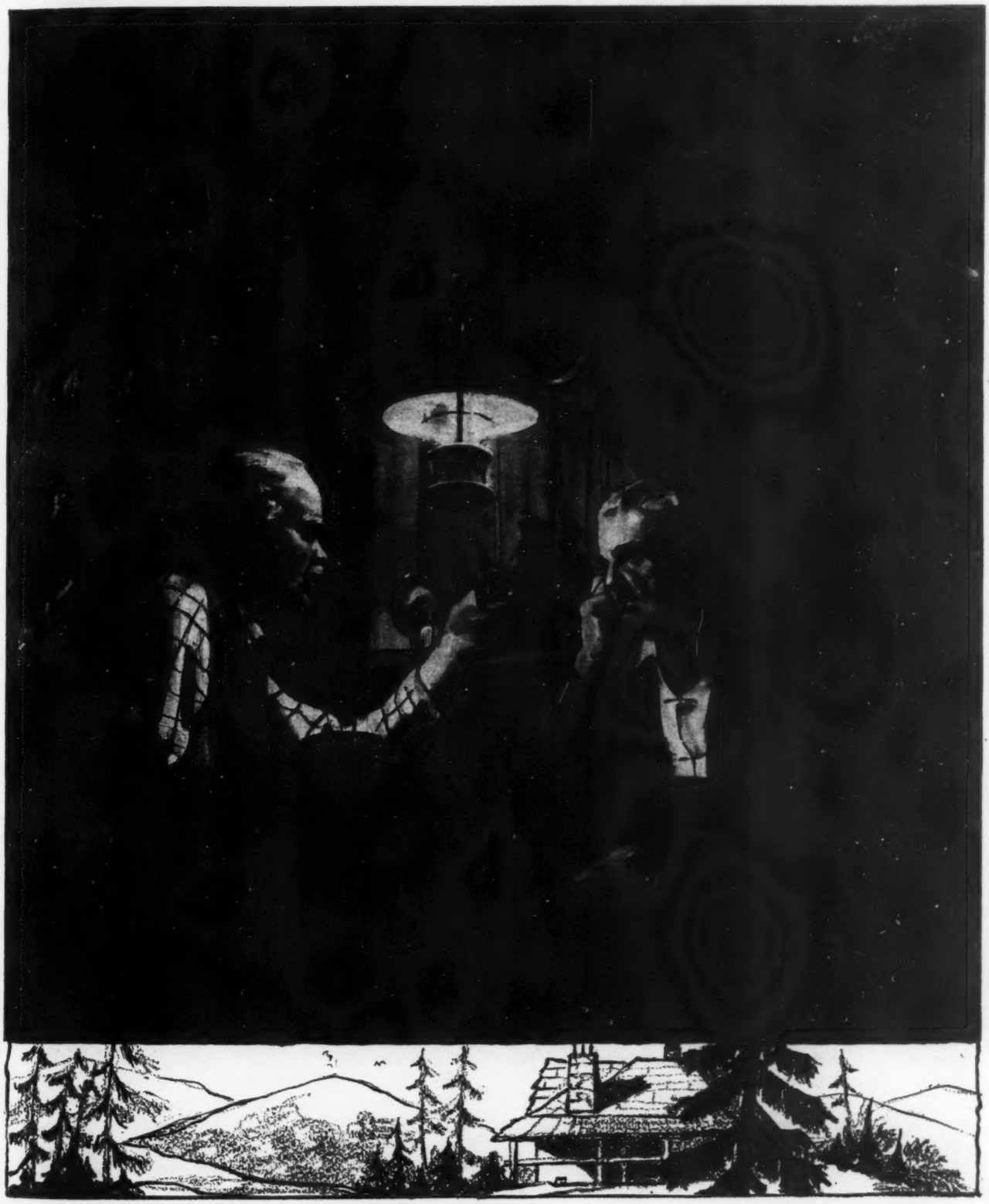
Obviously the first requirement of any medicine must be an exact formula. Without an exact formula there is no way to be sure that the results can be repeated. Every man who smokes a pipe remembers the time when he mixed up some delicious smoking tobacco and forgot to write down the way he did it. The world is full of pipe smokers mourning their famous lost mixtures.

ONE of the reasons why doctors are so suspicious of "patent medicines" and secret formulas is just this, that unless a formula is definitely known and published it is extremely unreliable. There is no sense in trying to judge something unless one has, to begin with, something definite to judge.

Suppose we were able to pin this old man down to a definite written formula, with definite ingredients and definite quantities. How did he test his remedy? He said it was good for all kinds of joint pains and that he applied it when warm and massaged it in thoroughly. Does this seem a logical way of testing a remedy? Pains in the joints may be due to a large variety of causes. They may result from derangements in the body chemistry, from infections, injuries and even cancerous conditions. As a matter of fact, "joint pains" could not really be considered a diagnosis at all, and the fact that this remedy is equally efficient for all these conditions without any diagnosis would lead one to feel that the relief experienced was due perhaps to the heat and massage rather than to the remedy itself. It would be necessary not only to conduct a number of experiments using some other kind of ointment, put on warm with the same massage, to see whether the same relief was obtainable, but also to test each factor separately in order to decide which was the one that did the work. Perhaps heat and massage would do it without any medicine at all!

If one has a definite formula applied to definitely diagnosed conditions the third thing to investigate is whether it actually relieves the condition. This is what is known as showing the cause and effect relationship.

"Well, that's easy," said the guide. "When the pain goes away, that shows it works, doesn't it?" Does it? The fact that a patient experiences relief of a symptom is certainly no proof



WHEN WE WERE A LITTLE BETTER ACQUAINTED HE FINALLY CONFIDED THAT HE HAD MADE AN IMPORTANT MEDICAL DISCOVERY.

of a cure of the condition that caused that symptom. Some objective test would be necessary to show that the underlying condition has really been removed. The patient's feelings alone are not a reliable index unless they are supported by a blood or urine test, an x-ray examination or some other impersonal measurement. A recognized yardstick must be used.

So THEN, when we critically examine this old man's important medical discovery, we find out, first, that it has no definite composition; second,

that its effect is measured on a mixture of diseases that are not definitely diagnosed, and third, that its results are evaluated by the patient's sensations of relief, and by nothing else.

Whether or not you know it, you have been using with me, in studying this medical discovery, the scientific method.

"Why," you say, "that was just common sense." Well, that's all science is. It's simply eliminating juggling and trickery and using common sense and of course all the exact apparatus and knowledge the scientists can bring to bear on a subject.

Is it possible for some layman to make a profound medical discovery by using little home remedies and hit-and-miss methods? Yes, it is possible, but it is extremely unlikely. In fact, not even a doctor working in a laboratory usually makes a medical discovery all by himself. The final discovery is usually based on numerous previous observations and reports.

About 150 years ago William Withering, a country doctor in Birmingham, England, heard of a cure for dropsy. Dropsy is that condition in which the feet and abdomen become swollen as the result of poor circulation. It is one of the signs of heart failure. An old woman in Shropshire went about with a basket over her arm in which she collected herbs. These herbs she brewed into a tea which she used in the cure of distressing cases of dropsy. It was said in the countryside that she was very successful in her cures.

DR. WITHERING investigated these reports, obtained some of the tea, used it himself in definitely diagnosed cases of dropsy due to heart disease and observed the effects of the treatments. The old woman finally gave Dr. Withering a written list of twenty different herbs which she picked in the fields and which she used in the making of the mixture.

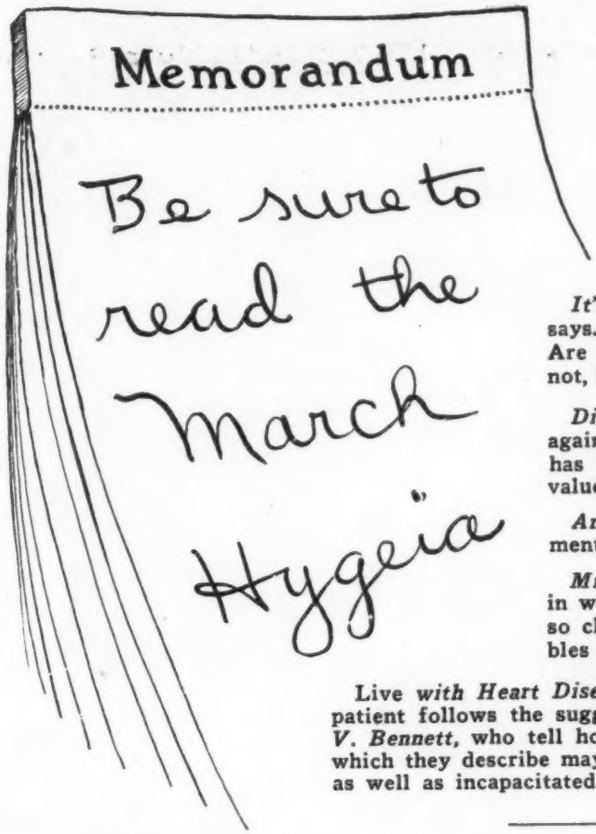
Using the scientific method that I have just described, Dr. Withering tested each one of the ingredients separately in a known case of cardiac dropsy and discovered that one of the herbs was the one that did the work. When used alone it was naturally more powerful than when it was put in with the old woman's mixture. In this case a layman's discovery was submitted to a competent medical investigator who by scientific means made the remedy available to the world. The herb was foxglove; the remedy is digitalis, and this is the true story of how that heart remedy came to be known to medicine.

Let us examine how insulin was discovered. Insulin is the brilliant discovery that has transformed diabetes from a hopeless disease to one that can now be controlled. For many years, doctors have known that when patients die of diabetes, the pancreas, a gland in the intestines, has a withered appearance. Incidentally, this shows the tremendous importance of the autopsy. There is a growing recognition of the fact that all medical progress is based primarily on the postmortem examination of persons who have died from disease, and sensible people everywhere are giving permission for these autopsies. Once it became known that the pancreas was concerned in diabetes, the next important step was animal experimentation. A drug was found that could be injected into an animal and produce diabetes by harming the pancreas. Then it was discovered that removal of the pancreas from an animal brought about a particularly severe form of diabetes, resulting in rapid death. The next obvious step was to realize that the medicine must be made from something in the pancreas, since the disease was certainly caused by a lack of that something in that gland. The rest was merely a chemical problem, and insulin was extracted and was found to be successful in combating diabetes.

NOTICE how direct this scientific method is, as compared with the hit-and-miss puttering about of the old mountaineer with his hot lard massage or of the old lady with her concoction of herbs. Each step of the doctor's reasoning follows logically after the step before. The experiments are conducted in a laboratory where the factors are definite chemicals that can be described by formula and reproduced at any time. The effect that insulin has on the body can be judged by a chemical examination of the blood and reported definitely on a laboratory sheet. It does not depend at all on a patient's subjective feelings.

The scientific method is comparatively new. Yet in the last century much greater progress in medicine has been made with it than was made in more than 2,000 years before its discovery. Many diseases that were shrouded in mystery even as late as thirty years ago are an open book to the doctor of today. Syphilis, whooping cough, scarlet fever—the causes of all these have been discovered since 1900. And discovery of the cause also means in most instances a method of control.

MEDICINE is a living thing, constantly growing, constantly developing and constantly moving forward. The one person who can place this knowledge at your disposal is your doctor. Whenever you hear of some one who has some new remedy or cure or system of medicine, remember that your doctor has special training in the scientific method and that he knows how to evaluate those things. If they are valuable he will use them for your good. Ask your doctor to tell you the truth about these new things. Do not trust your precious health to persons who are sometimes unscrupulous and almost always untrained.



Just Another Accident: Out of the loneliness that is now ever present, a mother pleads for a more rational and determined attitude toward automobile driving, so that other parents may be spared the tragedy of the traffic toll.

Some Peculiar Patents: The Myers' Tapeworm Trap, the Dimple Machine and the Goiter Cure Necklace are among the traps and contraptions for the gullible discussed by *Dr. Arthur J. Cramp.*

It's the Way You Walk: "Look at yourself," *Jane Priestley* says. "Do you walk and stand like some one you'd like to know? Are you living up to the smart new dress you plan to buy?" If not, be sure to study Miss Priestley's pointers for perfect posture.

Diphtheria: Ignorance and procrastination defeat the fight against unnecessary death. *R. A. Sloan* points out that science has forged the proper weapons but that without use they are valueless.

Anemia: *Dr. Allen S. Johnson* considers its cause and treatment.

Miss Fanny's Tea Room: A play by *Florence Marvyne Bauer* in which we meet some charming people—and some who are not so charming—and learn some interesting facts about foods, foibles and the human family.

Live *with Heart Disease—and* Like *It:* It's perfectly possible to do so, if the patient follows the suggestions made by *Dr. Louis Faugeres Bishop Jr.* and *Ruth V. Bennett,* who tell how to be happy with a weak heart. The various activities which they describe may well be adapted as leisure occupations for the able bodied as well as incapacitated. They continue the discussion begun in the current issue.

LIVE WITH HEART DISEASE— (Continued from page 109)

can carry certain color combinations in her mind and manipulate them to her heart's content. Let her repaint the furniture of the dinette as a beginning.

Many young women of today while living on reduced incomes have been mentally enriched through that boon of the depression, the adult education classes. Some have studied interior decoration and have even discovered a latent talent for painting. They now realize as never before the treasures of the past and present that abound in the art galleries of the city. While somewhat hampered by her impairment, one young woman has managed to eke out a fair living from rearranging and recovering battered furniture in homes where it had survived the onslaught of a family of young children now grown to years of discretion. Fresh cretonnes and inexpensive suggestions work miracles. She has also made an appeal to the working brides and their interior decorative needs, and to that end has used her husband's office, now innocent of business, for headquarters.

If fortunate enough to be able to walk in the country, why not take a hammer along and study mineralogy? When you get home you may find you have curiosity enough to consult travel books and geographic subjects. Make a collection of rocks and minerals of the region where you live. In all seasons of the year, too, decorations can be picked up by the roadside for the table. Try ordinary ground pine some time when nature is seemingly barren.

The trouble with young men, strong hearted or otherwise, is that today they all want a job with wages. Why don't they think up something to do like the youth of a past era and say goodby to wages? At the age of about 20 the average boy used to think of some little business he could start. Of course today admittedly it takes more stamina, for competition has more faces. Just think for a moment of the average summer-home community. The summer resident is usually forced to buy golf clubs, balls and other equipment at an exorbitant rate from two or three mild mannered racketeers. Let some young man buy a little hole in the wall, charge a little less than the average price for balls, repairs on clubs and so forth, and the people would certainly buy from him. He would have a fight on his hands, but that should add zest to the economic battle. Then let another boy do some satisfactory taxi service, just charging enough to make a small profit, say 20 instead of 25 cents for a short trip. Many a mother would be glad to hire him to drive her to market, for often the lake or seashore is not close to the shopping district, and Father may have the family car in the city. At least the boy would be independent and still learning in the important school of experience.

(To be continued)

Are You a Nervous Dyspeptic?

By EDWIN A. CAMERON

NERVOUS INDIGESTION is frequently described as a bane to the medical profession, a menace to its victim and a general annoyance to all who come in contact with the sufferer. Formerly the hysterical or emotional types of individuals were assumed to be predisposed to nervous indigestion. It is true that these types are especially susceptible, but it is now recognized that all kinds and classes of persons may be affected by this complaint. Even the phlegmatic individual sometimes unwittingly becomes a victim of nervous indigestion. Economic problems, occupational insecurity, mental fatigue from work performed under strain and pressure, insufficient rest, dietetic errors and chronic constipation, all these are factors which may foster the development of nervous indigestion, which may not be classed as a disease but rather as a digestive manifestation of an unstable nervous system. The condition does not show any regard for social station and occupation. The executive and the subordinate, the employer and the employee, are equally affected. It is often found that one person who works under the handicap of frequent attacks of nervous indigestion may, because of his increased irritability and general unpleasantness, create still other cases in the men who are forced to work under him or with him. This is illustrated especially in industries in which special emphasis is laid on sales promotion and where, as a result, all workers are pressed to speed up selling and production. It is here that a corresponding increase in the frequency of nervousness and indigestion among the employees is to be noted.

Surveys show that about three fourths of all illnesses affect the digestive tract at some time during their course. Since, then, the digestive tract is such a vulnerable part of the body, it would seem desirable that the layman be informed about means of prevention and treatment of one of the most common disorders of the digestion, nervous indigestion. This article concerns only that phase of digestive disturbance in whose avoidance or cure the layman himself may be of great assistance. Disturbances which have organic causes, such as ulcer, cancer, and diseases of the gallbladder, heart or kidneys, invariably require treatment by a physician, and their discussion is not adapted to a health article of this kind.

The nervous dyspeptic is frequently the careless eater whose palate decides the type of meal which he chooses; that is, the person who gives no heed either to the quantity or quality of his food. It is often evident that, as the saying goes, he "lives to eat," that eating is one of his greatest pleasures. Sometimes the nervous dyspeptic is most selective in regard to the quantity of his food but gives little consideration to the quality. He may season his diet with fried foods, fresh pastries and excessively sweet and sour articles. On the excuse of a "capricious appetite," he may consume foods which he knows disagree with him. The overfed, the idle, the genius or the drudge will generally be found to have errors in diet which contribute secondarily to nervous indigestion. Dietary errors can for the most part be detected and corrected without the aid of a physician, provided an individual is willing to give intelligent consideration to his own problem.

POSSIBLE evidence that fewer and fewer people are giving the proper attention to diet selection may be obtained from the report of the *Domestic Commerce Magazine* which states that in 1935, restaurants recorded 99 per cent of their 1929 volume of business, and that they estimate that 1936 will show an increase in business of 18 per cent over that of 1935. There are several explanations which might be given for this added patronage of restaurants. A part of it is undoubtedly due to improved economic conditions which allow for an increased food budget. Perhaps home diets may be deficient or uninteresting. A large portion of the restaurant trade is afforded by business men who enjoy unusual foods and foods in large quantities and who are generally not wise in their selection. Even though the restaurants can and often do make well balanced meals available to their patrons, the final decision must, of course, be left to the customer himself, who frequently fails to take advantage of the careful planning which the restaurant dietitian may have done.

The great advances made by science in recent years have given the layman much information regarding foods and their relation to health and to the prevention of nutritional diseases. The discovery of the existence of vitamins, for example, has helped in the diagnosis and treatment of many formerly baffling conditions. It is reasonable to hope that still more data on the importance of diet to health will be forthcoming from continued study and experimentation. It is unfortunately true that commercialism has taken advantage of the awakening food-consciousness of the American people by putting on

IT IS OFTEN FOUND THAT ONE PERSON WHO WORKS UNDER THE HANDICAP OF NERVOUS INDIGESTION MAY, BECAUSE OF HIS GENERAL UNPLEASANTNESS AND INCREASED IRRITABILITY, CREATE OTHER CASES IN THE MEN WHO HAVE TO WORK UNDER HIM OR WITH HIM.

the market certain health products for which extravagant claims are made. Sometimes the value of these products to human beings has not been properly verified by scientific research, and the layman becomes a victim to the advertising of an overzealous manufacturer. Often a few accurate data regarding a certain product may be magnified by the clever advertiser so that the product becomes known as a panacea for many and varied illnesses. Some of the health foods and medicines on the market are of unquestioned value, but information concerning any one of them should be obtained from an unbiased authority.

Many persons who suffer from digestive disturbances are willing and eager to experiment with new products either of food or of drug composition advertised as cures for their condition. These victims of digestive troubles read a voluminous amount of literature in the hope of finding some relief. If they succeed in finding some product guaranteed to alleviate their own particular symptoms, the mental assurance which it affords is often sufficient to improve their physical condition materially. Sometimes the fact that they follow supplementary directions for reducing the amount of food which they eat while taking the medicine helps to correct their digestive difficulties.

It is important to note that a carefully chosen diet does not need any artificial vitamin addition. All vitamins necessary for human existence are found in sufficient quantities in natural foods. The processed and refined foods are, however, often deficient in vitamin content, and therefore a diet composed largely of these foods, while it may appeal to the taste, does not satisfy the health requirements of the normal body.

THE victim of nervous indigestion may be of either sex. He is usually, though not always, of an emotional nature, or he may perhaps suffer from suppressed emotions. Often he is of more than average intelligence, but he is likely to be maladjusted to his environment, either business or domestic. The man or woman who has nervous indigestion is often obsessed by the idea that his colon is the basis of his disturbance, an idea fostered by reading advertising literature concerning symptoms similar to his own and their underlying causes. Once he is convinced that his colon is the offending portion of his

THE TRUTH IS THAT THE FOOD FROM WHICH THE OBESE PERSON ABSTAINS AT A HEARTY MEAL IS OF MORE BENEFIT TO HIM THAN THE FOOD WHICH HE EATS.

anatomy he seeks every opportunity to obtain remedies believed to be effectual in correcting this condition.

There are few problems in medicine more difficult to handle than is the problem of the nervous dyspeptic. In the case of such a patient a vicious circle exists in that the indigestion has unstabilized the nervous system which, in turn, aggravates the indigestion.

The treatment of a case of nervous indigestion requires tact, sympathy and kindness. The physician must be able to gain the absolute confidence of the patient, who is often suspicious of the value of any treatment which does not afford him immediate relief. He fails to realize that a condition in which numerous symptoms have been years in the process of development can be corrected only by the patient's continued and faithful cooperation with his physician. The many remedies which his medicine chest contains and which he has perhaps been collecting over a long period of time treat only the results of his indiscretion and not the ultimate cause of these unpleasant symptoms.

SINCE the nervous dyspeptic is frequently a neurasthenic person prone to exaggerate his distress, a tactless counselor may indiscreetly suggest that the patient's trouble is purely mental and that there is really nothing the matter with him. This suggestion, though well intended, may drive the patient to seek the advice of one who, he hopes, has a real comprehension of his problem. Unfortunately the selection of this adviser may be made unwisely, and the patient may become addicted to certain forms of physical treatment to the exclusion of more accurate diagnosis and treatment, and as a result he may become a hopeless invalid.

Any person who suffers from nervous indigestion should apply to a reliable physician for a complete physical examination including x-ray and other laboratory tests. This examination may give authoritative assurance to the patient that he has no ulcer, cancer or other organic disease which he may have feared.

THE next requirement in the treatment of nervous indigestion is that the physician or some other trained person make a painstaking study of the mental and emotional condition of the patient. A careful case history should be prepared in which is included an especially detailed study of the patient's adaptability to home and business conditions. Questioning by the physician may often reveal that the nervous dyspeptic is not troubled by attacks of indigestion when he goes on a trip or when he eats at the club, thus indicating that his home conditions leave something to be desired. Or he may be temporarily relieved of his attacks during his vacation or on Sunday, so that it is reasonable to assume that he is not well adapted to his work or that some one of his managers or business associates is particularly uncongenial and bad tempered. Whether this psychic approach to the patient's problems will lead to their ultimate solution depends on certain social and economic factors as well as on the cooperation of the patient himself. In cases where the information obtained by such a process of analysis can be put to some practical use in creating for the patient a better adjustment to his environment, it has proved to be a step to a more permanent relief than that afforded by any other treatment.

Much valuable information about the digestive disturbance can be obtained from the patient,

but this information is often colored by certain prejudices concerning foods and diet. The patient is apt to believe, for example, that some food which he ate at the meal just preceding his attack of indigestion is the cause of the attack. In reality the food which is the cause of the discomfort may have been eaten twelve or more hours before its ill effects were noted. It is essential that the nervous dyspeptic become receptive to ideas which are new to him but which have been proved to be unquestionably correct. A popular fallacy in regard to diet is the "acid theory" of indigestion. The large amount of advertising warning the layman against "acid stomach" and advising him of a corrective for this condition has resulted in increased self diagnosis and treatment of indigestion and in the wide use of alkalis which frequently only aggravate the condition which they claim to abolish. If the patient's digestive disturbances are due to a lack of acidity, as is sometimes the case, the use of these alkaline remedies may even favor the development of some adverse organic condition. Physicians have observed patients ill with incurable cancer which has been aggravated by the unwise use of popular remedies against indigestion.

IT SHOULD be understood that alkalis have a definite use in the treatment of certain types of nervous indigestion. They are, however, tools in the hands of the physician and should not be taken without his advice.

Another mistake which the nervous dyspeptic is prone to make in attempting to treat himself is that of overloading his diet with raw vegetables and fruits and roughage such as bran. Some persons appear to have animal types of digestion and suffer no ill effects from an excess of these foods. Others have become acutely ill with symptoms due at least in part to this unwise diet selection. Even the individual who suffers already from nervous indigestion may attempt to gain back his lost health by means of an excessive consumption of raw foods and roughage which would try the best of digestions. As a person becomes ill or reaches a mature age he becomes susceptible to the idea of simple living. The attempt at simplifying the diet, however, often results in the eating of foods so ill adapted to the condition, temperament or advanced age of the person that ailments may develop which had not existed before this radical change of diet was instituted.

There are certain general suggestions which have proved really effectual in the treatment of nervous indigestion.

1. Enough teeth or properly fitting artificial teeth for proper mastication are highly important in the prevention or treatment of digestive disturbances, since digestion starts in the mouth. Yet it is said that more artificial teeth repose in the bureau drawers than in their owners' mouths. Sometimes artificial teeth are used for cosmetic effect only and are removed while the owner eats.

2. The amount of liquid which a person consumes with his meal should be strictly limited, since an overindulgence in this respect may encourage improper mastication, too rapid eating and an undesirable dilution of the gastric juices. A certain fluid consumption may be permissible, but scientific experimentation demonstrates that this habit may be definitely injurious in some cases.

3. The foods that should be eliminated from the diet in a given case of nervous indigestion should be determined by proof rather than by speculation. The mental state of the nervous dyspeptic may affect his digestion even more than the food which he eats.

4. Constipation should be corrected, preferably by diet.

5. A sufficient amount of rest and sleep is important to the nervous dyspeptic. A short nap after each meal is often helpful in aiding digestion by giving the patient a respite from mental activity.

6. Sometimes the avoidance of a meal is advisable when the meal could be eaten only under the tension of a nervous strain.

7. An obese person should never satiate himself with food. He should discover the improved feeling which results from a reduction in the quantity of his food. The more he eats, the more he desires to eat. The truth of the matter is that the food from which he abstains at a hearty meal is of more benefit to him than is that which he eats.

8. The underweight person should often increase his food consumption in order to improve his body resistance to the indigestion from which he suffers. If he has a poor appetite he should eat small portions of food at frequent intervals. A week or two in bed is sometimes beneficial in combating the condition.

9. It is of the utmost importance in the treatment of his case that the patient discard old fears and prejudices in regard to digestion and acquire in their place sane, practical and tested ideas of diet and health. The physician may often fail in effecting a cure in a case of nervous indigestion because the patient lacks either the knowledge or the interest essential to his cure.

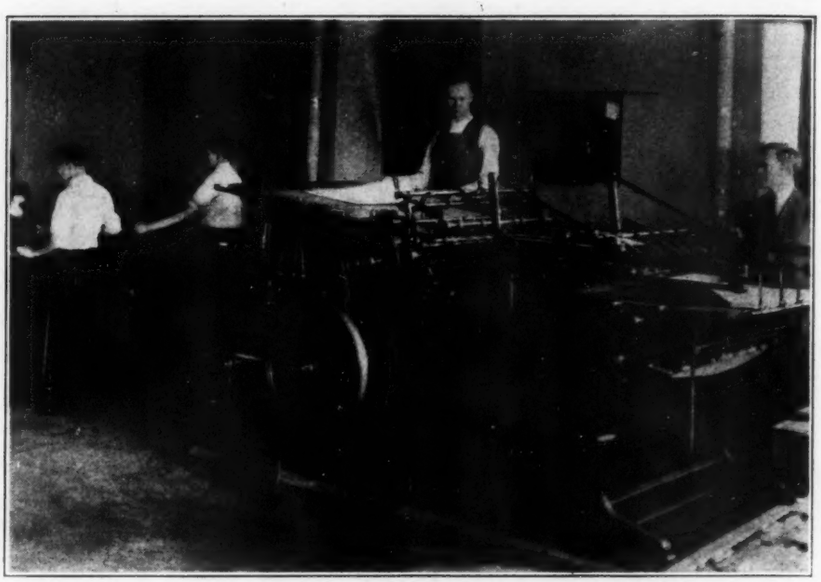
10. An interested friend or member of the patient's family may have great influence in persuading him to cooperate with his physician and therefore in helping him toward recovery.

THE victim of nervous indigestion is confronted with manifold difficulties, but the experience of many people has proved that these difficulties are not insurmountable. Perhaps his most important task is the acquisition of an intelligent understanding of the principles of health and the avoidance of fanaticism.

Give the Deaf Child a Chance!

Let education prepare him to meet the civic, economic, moral and social conditions of life and to become a self supporting, law abiding citizen, a valued asset to the state.

By WESLEY LAURITSEN



THE NATION'S SCHOOLS FOR THE DEAF HAVE FOR THEIR AIM: EDUCATE THE HEAD, THE HEART AND THE HANDS.

THERE IS no longer any reason why deaf children should be pitied, for within a day's driving distance of practically every American home is a modern, up-to-date school for the deaf with technically and specifically trained teachers and special equipment which insure the twentieth century deaf youth an opportunity to secure an education that will enable him to earn a living and enjoy life like his more fortunate brothers and sisters. These schools for the deaf offer an education to the children of the rich and the poor alike; these schools are a part of the American educational system as much as the public schools of the states; and these schools offer deaf children an education in every sense of the word. These schools are prepared to educate the child so that when his happy school days are over he will be prepared and adjusted to meet the civic, economic, moral and social conditions of life, to be a self supporting, law abiding citizen, an asset to the state.

CHILDREN with defective hearing come under two broad classifications, deaf children and hard of hearing children. All those whose hearing is so defective that they cannot make use of it to understand the spoken word are said to be deaf. All those whose hearing is so defective that they cannot understand ordinary conversation and cannot make satisfactory progress in the public schools for this reason, but whose defective hearing becomes usable when the source of sound is brought within their hearing range, either through loud speaking or hearing aids, are said to be hard of hearing.

Deaf children are further classified as congenitally deaf and adventitiously deaf. Children born deaf are said to be congenitally deaf. Statistics indicate that about 35 of every 100 deaf children are congenitally deaf. Children who lose their hearing in infancy, or before acquiring speech and language, may for all practical purposes be classified as congenitally deaf. This group, not having heard the human voice, possesses no speech that is natural. These children may be taught speech and lip reading, and this may be of great assistance to them in their classroom work, but the speech results are not always clear and intelligible. However, this fact need not retard their education. The average child in this group may learn to read and write about as well as the adventitiously deaf child, and his vocational work will be on a par with that done by other youths of his age. The adventitiously deaf child was born with normal hearing, and normal speech was acquired in due time, his ears having become inoperative after he had acquired connected speech and connected language. If sent to a school for the deaf a child in this group will be required to use his speech, which he may reasonably expect to retain if he uses it faithfully. Under the direction of expert teachers the speech may be improved, and the child may become more or less proficient in the art of lip reading. He can expect to be graded and to progress as he would in any public school in the state.

THE latest census report indicates that there is a deaf person to approximately every 2,150 of population. The proportion of deafened or hard of hearing is much greater.

If you suspect your child of having defective hearing take him to a competent ear specialist.

He will do everything possible for your child. Consulting such a specialist is the only logical thing to do, and your family physician would advise it; it is also the unanimous advice of educators of the deaf who have given their lives to uplifting this class of handicapped persons.

If the child is deaf or too hard of hearing to be educated in the public schools do not lose any time in sending him to a recognized school for the deaf when he is over 6 years old. In the case of a younger child the superintendent of your state school for the deaf should be consulted, and if possible, a personal interview should be arranged. The gentlemen in charge of these schools are almost without exception the best informed in their respective states on the matter which will be paramount in your mind, and they can give you straightforward, authoritative, unbiased and valuable information which will assist you in helping your child and preparing him for the day that he must begin school. This unadulterated advice will, without exception, be given without cost or obligation, and the parent owes it to himself and his child to secure it. You should ask for advice not only about the state school but also about the public day schools, denominational and private schools that may be located in your vicinity.

While the educated deaf of the country are overwhelmingly behind the state residential schools because of their superior facilities, you owe it to yourself and child to investigate, by personal visit if possible, all the schools that might be open to your loved one. Then you will be prepared to choose the school best suited to the development of your child's physical and mental capabilities. You will have the satisfaction of knowing that your child is getting the best education possible. I further suggest that in investigating you request to be put in touch with several graduates of the different schools. Compare the finished products, for "the proof of the pudding is in the eating."

I have known fathers and mothers who loved their deaf children so much that they would not send them to school. These parents selfishly kept their children at home until they had grown to young manhood and young womanhood. The parents, unfamiliar with present-day educational possibilities, were unable to teach their children to read or write, and they grew up unable to communicate with their fellows, except by means of crude, natural gestures. To my mind these well meaning parents kidnaped their children from the schools, where they rightfully belonged, and were as guilty of this heinous crime as any of the nationally notorious kidnapers.

Compulsory school laws in most of our states fortunately require that all deaf children be in school, but the eyes of the law cannot see everywhere, and at times an unfortunate American child is still denied his birthright, an education.

If you know a deaf child who is not in school you should notify your city or county superintendent of schools or the head of your state school for the deaf. Physicians, public school workers, social service employees and others coming in contact with deaf children have an opportunity to render valuable service to the child, his family and the state by seeing that the child is properly placed. A deaf child allowed to grow up without an education is a pitiable object, an unhappy burden on society; the same child given an education becomes a happy and useful citizen, an asset to the state.

IN THE United States there are sixty-four public residential schools for the deaf with an enrolment of 15,260 pupils. These schools have a personnel of 2,067 teachers. There are 125 public day schools for the deaf, with 4,510 pupils enrolled. The number of teachers in these schools is 523. The enrolment in twenty denominational and private schools is 783. The average number of pupils to a teacher in our schools for the deaf is 10. In the public schools the teacher's load is much heavier. Small classes are necessary in schools for the deaf as much individual instruction must be given.

All the schools referred to in the preceding paragraph are in session nine months of the year just as are the public schools. The aims of these schools are triune: to educate the head, the heart and the hand. Each school tries to provide a common school education. The work in our state residential schools has been standardized, so a student receives about the same kind of an

PRACTICAL TRAINING IN DOMESTIC SCIENCE IS GIVEN TO THE GIRLS.

education he would in his hometown grammar and high school. Besides this, practical training is given in a trade suitable to the individual. Among the vocations now taught in most of the residential schools are agriculture, art, beauty culture, baking, barbering, bookbinding, cabinetmaking, carpentering, domestic science, domestic art, library cataloguing, metal work, sign painting, shoe repairing and tailoring.

VOCATIONAL TRAINING IS AN IMPORTANT PART IN THE EDUCATION OF A DEAF PERSON.

All children sent to schools for the deaf, whether day schools or state residential schools, are placed in oral classes. Every effort is made to teach the child by means of speech and lip reading. There is not a school in the United States where signs are used as a means of instruction. Making satisfactory progress, the child will be kept in an oral class throughout his course.

If a child is unable to learn to read the lips well enough to get an understanding of the subject matter by this means, he is placed in a class where written English, on the blackboard or paper, becomes the main means of instruction. Such a class was formerly called a manual class, because finger spelling was often used. Finger spelling is merely spelling out the letters of a word in the air. The term manual class was clearly a misnomer, and executives of the American schools for the deaf at their last convention took official steps to correct this.

An individual amplifying unit is used with pupils having some degree of hearing. This is a rather expensive instrument which magnifies the human voice to such an extent that the scholar is able to understand the exact words spoken by the teacher.

I have made a careful investigation of the three types of classes just described and find that the work done is practically identical. A combination of these systems is called the Combined System, and 75 per cent of the state residential schools use it. There are undeniably advantages in being able to place a child in the class in which he fits best. The educated deaf of the country have by resolutions of their various state, sectional and national organizations endorsed the combined system. To my knowledge, not a single organization has endorsed the pure oral method. The educated deaf have been through the mill. They should know. Such outstanding leaders as Dr. Percival Hall, president of Gallaudet College, Washington, D. C., the only college for the deaf in the world; Prof. Irving S. Fusfeld, editor of the *American Annals of the Deaf;* Dr. Ignatius Bjorlie, superintendent of the Maryland State School; Leonard M. Elstad, superintendent of the Minnesota School, and Elwood A. Stevenson, head of the California State School and ten day schools in that state, have all declared for this method, holding that consideration of the child as an individual should come before any one method. These men from Harvard, Columbia and St. Olaf colleges have made the education of the deaf their life work. They have studied it from every angle, and from long experience they know what is best. They all hold high office in their professional organizations and have made enviable reputations in their communities and among the deaf nationally. They cannot be wrong.

The congenitally deaf child usually enters school in the fall without a single word in his vocabulary. He does not know his name; he does not know he has a name. When he leaves in May he is usually able to understand and use approximately 500 words. Each year over a period of twenty-one years it has been my pleasure and privilege to see little children of this type enter school. You may see little pleasure in this, but knowing as I have that the minds of these youngsters would gradually open, I have found untold satisfaction in seeing the process. The first week or so at school may be a little hard, but the children soon learn that their interests are looked after first, last and all the time; so a beautiful spirit of cooperation and

tolerance is built up between pupils and teachers. The pupils soon learn to love their teachers and their school. No place in the land will you find a more happy and joyous group of children than at the average state school for the deaf. The "Welcome" sign is always out at these schools, and every reader is invited to visit his state school for the deaf to verify these facts.

Not one, but any number of prominent school men who have taken interest in and keenly observed the work done by the present-day schools for the deaf, have declared the results nothing short of modern miracles.

The public day schools usually offer the deaf or hard of hearing student eight years of schooling. The residential schools have standard twelve year courses: eight years of grade school work and four years of high school work. In addition, many of the schools now have one, two or three years of preparatory or kindergarten work, making the total time required to complete a course from thirteen to fifteen years.

Graduates of the state schools who are able to meet the necessary scholastic requirements may enter Gallaudet College. The federal government provides free scholarships for 140 students each year, and some of the states generously furnish their students with free transportation to and from Washington. The five year course at this college leads to the degree of Bachelor of Arts or Bachelor of Science, and postgraduate courses toward masters' degrees are offered. The government has spent almost a million dollars for Gallaudet's lands and buildings, and each year it provides $130,000 for current expenses. This is a most generous contribution to the education of the deaf, but figures show that it is an investment rather than a contribution, and a good investment at that, as the 1,600 young men and women who have been graduated are good citizens, distinguishing themselves highly in art, business, chemistry, architecture and teaching. They have won renown as writers, editors and publishers. In fact, graduates may be found holding their own in every line of high endeavor where hearing is not absolutely essential.

THE deaf as a whole are an optimistic group of people. In the April 1936 issue of the *American Mercury* appeared an article entitled "I Am Glad I Am Deaf," written by Arthur G. Leisman, who has been totally deaf for thirty-five years, since he was 5 years old. He feels grateful that he does not hear the racking strain of the fury and chaos engendered by the noises of life, and he finds abundant pleasure in auto trips, hunting, fishing, sports events, social gatherings of the deaf, books and writing.

According to the latest census reports there are 57,084 deaf persons in the United States. It is impossible to figure the number of hard of hearing, but the results of hearing tests made with the audiometer show that the number is large whose hearing is so poor that they may properly come under this classification. Thousands of the deaf own and operate their own automobiles. They have an enviable record as safe and careful drivers. A large proportion of them own their own homes and have families of bright, intelligent children who have risen to the top in their chosen professions. Offhand I can mention bank presidents, doctors, school superintendents, university professors, newspaper publishers and officers in our Army and Navy.

DEAF men of the country have organized and for more than a quarter of a century have conducted the National Fraternal Society of the Deaf, which provides sickness, accident and life insurance for deaf white men at rates comparable with those quoted by nationally known companies. This society has more than a hundred divisions, does a monthly business of $10,000 and has assets of $1,954,754.

The National Association of the Deaf is active in assisting local and state organizations, when necessary, to prevent discrimination against the deaf. Next summer this association will hold a convention in Chicago, with Hotel Sherman as headquarters. Thousands of American citizens, all minus their hearing, will be in attendance.

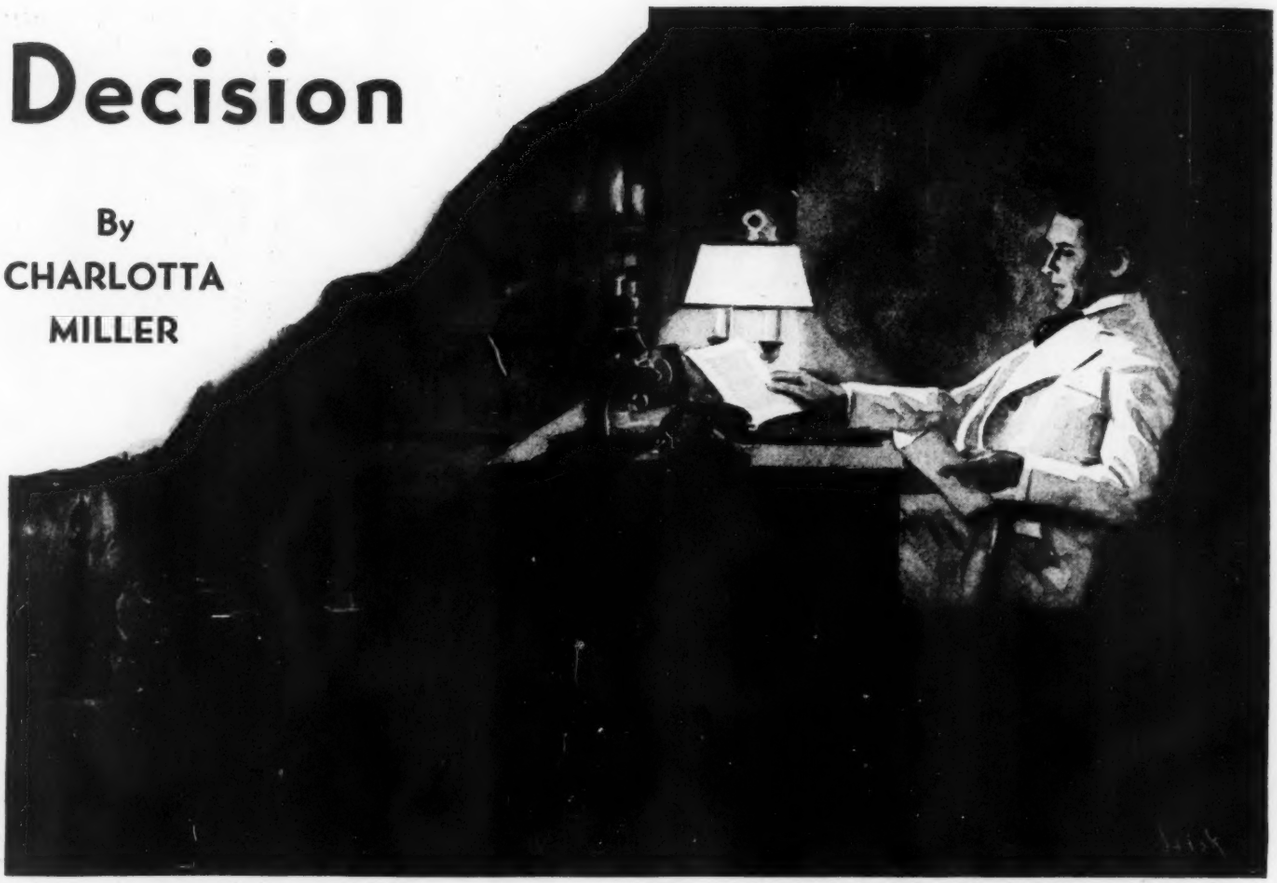
From time to time sensational stories of restoration of hearing appear in the daily press and magazines. Investigation usually proves the story false and written by an overenthusiastic reporter. A few years ago it was claimed that flying high in an airplane would restore the hearing, it being argued that the change in air pressure would favorably affect the eardrums. A number of deaf persons took to the air; several lost their lives, and no one had his hearing restored. It was later brought out that the deaf person who started the story had felt the vibrations of the airplane engine. He had not heard anything.

A few years ago the parents of a deaf boy in one of my classes asked for permission to take their son out of school for the purpose of taking him to another city, where it was said his hearing would positively be restored by a new miracle method. The school authorities advised that it would be a futile expenditure of time and money to make the trip, but the parents evidently wanted to be shown. They had their way. A week later they brought their boy back, as deaf as ever and a week behind his class. The young man finished his course at the school, secured a steady position as a cabinetmaker, and today is a model citizen, married, and drives his own car. He has never been on relief, and the probabilities are that he never will be. He is a typical state school graduate.

The hard of hearing may be benefited by certain instruments now on *(Continued on page 178)*

Decision

By CHARLOTTA MILLER



TWO BELOW zero! Jim turned from the window, drew the curtain and put another log on the fire. "Why does reading the thermometer always make one colder?" he queried, as he crossed the room and sat down at his desk. The amused smile faded, and his face became serious as he picked up two letters.

GEORGE F. FAUKES, M.D.
PROFESSIONAL BUILDING
BOSTON, MASS.

Jan. 10, 1936

My dear Dr. Martin:

I have watched your progress in Medical School and your work as an intern with considerable interest. I understand your term as intern at the hospital expires March first; and about that time my assistant, Dr. Ross, is going to Denver.

If you would be interested in coming to me as assistant, I will be glad to make an appointment to talk over further details as to what I would expect and as to what such a connection might develop for you in the future. The latter, you understand, would be entirely dependent on your effort and ability.

Very truly yours,
George F. Faukes.

The second letter was in a woman's writing and bore the postmark of a small New England village. Opening it, he read,

Elm Street,
Brookville, Mass.
Jan. 12, 1936

My dear Son:

Your term at the hospital is drawing to a close, and I am wondering what plans you may have for the future. I have purposely refrained from discussing the matter with you because I do not wish to influence you in any way.

You had a brilliant record in medical school. With so many opportunities open today for special types of work, you may wish to carry your studies further or settle in the city where you will have a larger field.

When you were a young boy, I used to think how fine it would be to have you some day take up your father's work. Another Dr. Jim Martin!

We came here shortly after we were married. I often think of the long country drives I took with your father, and how I made friends with so many women on the farms. How different things were in those days! No hospital within two hundred miles, no trained nurses unless they came from the city, no office secretaries or automobiles. It was twenty-four hour service for three hundred and sixty-five days in the year, for doctors didn't take Thursday afternoons for golf or make week-end trips. But I don't think we felt as busy as people do today, and we were wonderfully happy.

Some people thought a man of your father's ability was wasted here, but I don't think so. At our final accounting there will be a different standard of success and achievement from that to which we have grown accustomed. It will be service to others, not financial reward or prominence. And with that standard your father will rank high. He ministered to the whole community and was loved by all.

I am glad you have his name, and wherever you settle I am sure that once again there will be a beloved Dr. Jim Martin.

Do come home for a vacation! If you are in the city next winter, I may visit you.

Marcia was just in and sends her love. The girl grows more winsome every day. She is going to make her long anticipated trip to Europe in June.

With much love,
Mother.

The man at the desk had read both letters many times. Now with them spread out before him he gazed with unseeing eyes at the opposite wall, unconscious of the fact that his long slender fingers were toying with a paper weight.

Hang it all! Why did one have to make such momentous decisions when one was young? He shook his head impatiently. He was an attractive man, with his tall, well built figure so immaculate in his white suit. Many interns looked as though their clothes had been thrown at them. Jim's years in a military school were not lost; he wore his hospital clothes like a uniform.

With a nervous jerk he turned to answer the telephone. "Oh, Mrs. Mayer! Yes, it will give me a great deal of pleasure. Tomorrow at 8."

His firm mouth parted in a pleased smile, showing his white teeth, a sharp contrast to his dark skin.

An informal dinner at Mrs. Mayer's was an invitation many would covet. Louise Mayer was a good friend and her mother very gracious.

SUPPOSE he was Dr. Faukes' assistant. It would mean rapid advancement in his profession. In a few years Dr. Faukes would retire. Then if he made good, who could tell, Jim Martin from Brookville might some day be a famous specialist with a practice among the fashionable people of the city. Of course he would marry—perhaps Louise.

Each year his life would become more conventional, and always in the city, yet touching the life of the city only through his own small circle. Grimly he realized that whatever choice he made, as a good physician he would be sure of hard work and anxiety.

Perhaps no man except a clergyman has such opportunities to come in contact with all sorts and conditions of men as a physician does. Yet the man of prominence must pay the price of prominence: social obligations, professional duties in hospitals and medical organizations, each year his private practice becoming more confined to the class of patients who could pay his fees.

Caught at 26 by the glitter of the life, at 50 would he feel he had missed something more worth while?

Across his mind flashed another picture, and his face grew remarkably young with the wistful eyes of a home-sick boy.

Home! The white house on the elm shaded street! His mother standing on the steps in her white dress, fresh and dainty even on a hot day, her hand shading her eyes as she looked anxiously down the street for Father's buggy. Then her quick command. "Hurry, Jim, and take the horse so Father can come right in. He must be dead tired on such a day."

Tenderly she turned to the elderly man coming up the steps. "Come right in, Jim. I have a nice dinner for you, and your favorite dessert too—blueberry pie, the first this year."

The lines around Father's eyes would crinkle in amusement. "Always have some reward, don't you, Ellinor? Well, it's worth a morning's work to taste your blueberry pie."

What a man he had been! So kindly, with a wit that never hurt and a heart as gentle as a woman's. "I know I can't get well, Doctor, but just having you come and talk to me makes me feel more comfortable," old Mrs. Moran had said.

With amusement Jim remembered the old familiar question, "How much do I owe you, Doctor?"

"That will be a quarter, Sara, and remember you can give the powder in a little apple butter if Johnny doesn't like the taste. The apple butter won't hurt him, and there is no use in rousing a prejudice to medicine."

Then came the day Father was buried, a cold, snowy day for the old doctor's last journey.

An old man, with a muffler drawn close to his wizened face, knocked timidly at the door. "May I see the doctor? I jist heard he was dead, and I reckon this will be my last trip to town. Gettin' pretty feeble, but I want to look at his face once again. Yes, ma'm, he was our doctor; took care of my family all these years. Remember what a spry young fellow he was first time we called him to come out. Thought the baby was goin' to die, and he stayed all night to put poultices on her. Get well? You bet, with a doctor like that. Married now, with a family of her own. My wife's dead and all the children married, but I like to keep the old home back on the mountain. . . . Oh," in answer to a question, "I drove part way, then walked; felt I had to get here some way."

In the days that followed, many people came to tell what the doctor had done for them—Father, who so often was tired and whose clothes were so shabby.

"Jim, that suit is a disgrace," Mother would say briskly.

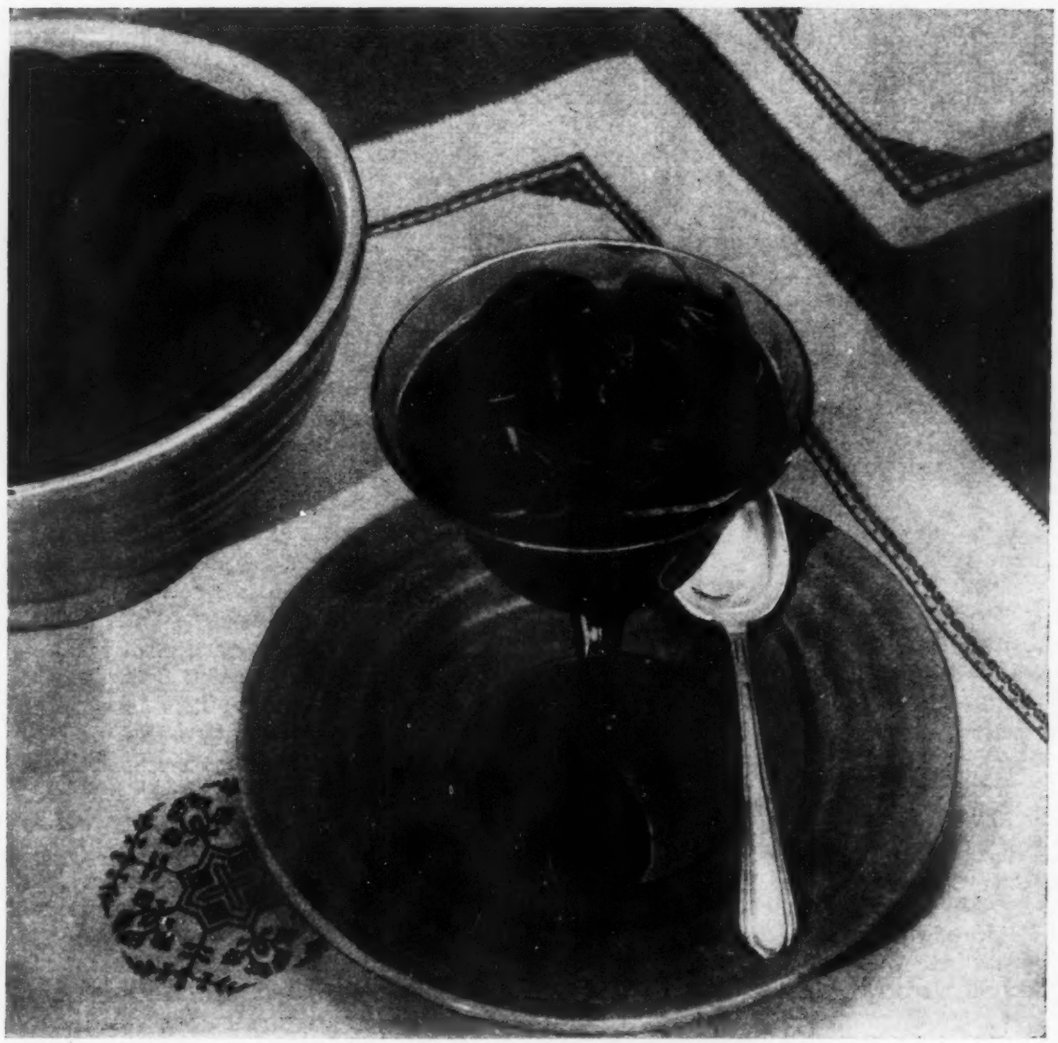
"Can't help it, my dear. Climbing in and out of the buggy doesn't keep one looking like a tailor's model."

JIM took up the telephone. "Long distance, Brookville 122-M." Why are telephone operators so slow, he wondered as he rumpled his hair with an impatient gesture.

"Yes, hello! This you, Mother? Just wanted to tell you I'm coming home in May to stay. Do you think you can have the old office ready so I can hang my shingle out? Get your letter? Yes. Influence me? I'm not sure. I've just been thinking of Father and what he meant to people. If I can be a little more like him, I'll be happy. You well? That's good. Hello, hello! What's that? You're happy over my decision? Oh, so am I. Corking. Good night."

PRUNES

By E. M. Geraghty



"THE DOCTOR said be sure to give the children plenty of fruit all year through," said Mrs. Thompson. "We've had oranges and grapefruit and bananas and apples, the same old round for the past three months. I haven't much money to spend. Apples are the cheapest, and we've had them so much I'm sure I must seem like Eve every time I bring them out again. I've fixed them in more ways than you could shake a stick at, but still it's the same fruit. Oh, I know there are plenty of other fruits in the market for folks with lots of money, but what else can *I* get?"

"Have you used any of the dried fruits, such as prunes, raisins, apricots, figs, peaches or pears?" I asked.

"Well, I use them once in a while, but we don't care much for them, and since I must have fresh fruit for the children I just stopped getting dried fruit."

"Well, I'm not suggesting that you use dried fruit exclusively, but I know you could use more raisins in your puddings and baking. Then there are so many other varieties of the dried fruits, so many ways to fix them that you could have something new all the time and still not spend much money; in fact, it would be far less than you're spending right now—and now you're having almost no variety. Why do you say you have to have fresh fruit for the children? Doctors prescribe stewed prunes and apricots for very young children. In fact the commercially prepared puréed prunes and apricots for infant feeding are made from the dried fruits. So why shouldn't they continue to have them when they are older?"

"Well, yes, I guess you're right. But will the dried fruits be as good for them?"

"Of course they will. Dried fruits, as a matter of fact, are the only preserved fruits that are

fully ripened on the tree or vine, and consequently they are that much more desirable. Only the water is removed in drying, and their food value is concentrated in proportion to the moisture evaporated. One pound of dried fruit equals several pounds of the fresh fruit in food values, you see. Fruits are needed in the diet because they have an agreeable flavor, lend variety, and supply quick food energy, vitamins, minerals and bulk.

"Dried fruits, if properly prepared, have grand flavors and will add variety if presented in new and interesting ways. They contribute vitamins A, B and G, and in the case of apricots and peaches, vitamin C. They also give essential minerals such as calcium, potassium, phosphorus, sodium, manganese, iron, magnesium, copper, chlorine and sulfur. They give necessary bulk, and in addition to their smooth bulk, prunes contain an active laxative quality. Just try them and see what a delight they will be."

"I'll do that," Mrs. Thompson declared. "I'll get a pound of prunes the next time I go to the store."

"What kind are you going to get and what size?"

"Kind? Why just prunes. They're all alike, aren't they?"

"No, there are different kinds just as there are different kinds of apples, although not quite so many. Buy them according to what you want to make with them. The prune d'Agen, or French prune, which is a small sweet prune, is the variety most widely grown in California, and it can be had in almost any size. There are other varieties, as Sugar and Robe de Sergeant, but it is seldom possible to buy these by varieties, as there are so few of either of them grown. The Silver prune is made from a golden colored plum and is sulfured to retain the light color, but this variety is gradually disappearing from grocery stores because of decreasing production, I am told. Imperials are the largest to be had and are purchasable as a variety only in jumbo sizes, as these prunes differ noticeably from French prunes only in that they attain such huge proportions. The Italian prune is the most generally grown in Oregon, Idaho and Washington. This prune is not as sweet as the California prune."

"Are there really different sizes? I usually just ask for a pound of prunes."

"Prunes are packed according to the number in a pound. The largest grade has between 15 and 20 to a pound, but usually only the Imperial grows to this size. The smallest prunes you will buy have between 80 and 90 to a pound, although they sometimes run as small as 100 to 120 to a pound. If you want to serve the prunes whole, ask for a pound of 20's to 30's, 30's to 40's or 40's to 50's. If you are going to cut them up or purée them, ask for any of the smaller sizes, and remember that the smaller sizes are the most economical. The large size in packaged California prunes average from 40 to 50 to the pound; the medium, from 50 to 60 or from 60 to 70, and the small from 70 to 80.

"The following table should give a very good idea of relative economy of sizes in prunes:

Size	Cost per Pound, Cents	Meat in Ounces	Edible meat Cost per Pound	Edible Meat for 5 Cents
30- 40	7½	13⅛	.088	9.0 oz.
40- 50	6½	13½	.077	10.4 oz.
50- 60	5½	13½	.065	12.3 oz.
60- 70	4½	13¼	.054	14.7 oz.
70- 80	4	12⅝	.050	15.9 oz.
80- 90	3½	12⅝	.045	17.7 oz.
90-100	3	12¼	.039	20.4 oz.
100-120	2½	12⅛	.032	24.25 oz.
120 up	2	11⅜	.028	28.44 oz.

"This table was prepared by members of a group interested in merchandising prunes."

"Well, I'll certainly look more carefully the next time I buy prunes. Tell me some new ways to fix them. I just soak them all day and cook them while dinner is being prepared. Then when they are cool I put them in the refrigerator and they are ready for breakfast."

"Recent advances in the processing of prunes have given us a method which produces a prune which is meaty and juicy and not all dried out. Many persons like to eat these prunes just as they come from the package. Opinions differ about soaking before cooking. Some feel that rinsing thoroughly, covering with water and boiling briskly in a covered container for forty-five minutes gives a finer textured and sweeter flavored prune than you get by soaking. Of course, time is saved this way, too.

"Be sure to let the water cook down so that you have a nice thick syrup; and serve every bit of it. You may add sugar if you like for the last five minutes of cooking; but it is really not needed as California prunes are nearly half sugar in themselves.

"If you are a stickler for soaking, be sure to cook the prunes in the water you soaked them in, and be careful not to stew them to a mush. You can bake them just as well, if you have the oven going and room to spare. I like a few slices of lemon cooked in with my Imperial prunes. And do have them icy cold when served, unless you serve them warm purposely.

"Another way we like them is without any cooking at all. Just rinse them thoroughly, cover with a mixture of three-fourths water and one-fourth sherry wine, and leave them for several hours in the refrigerator. The prunes are plump and shiny and have an excellent flavor. Topped with whipped cream this makes a fine luncheon dessert.

"Here's a tip if you want an especially nice looking dessert. Soak the prunes in water and sherry; before arranging in the serving dishes take hold of the end of the pit with a blunt pair of shears, give a quick pull, and the pit will come out at the end of the prune leaving the prune

AMONG THE INGREDIENTS OF THIS PRUNE CAKE ARE BANANAS.

whole. Every one wonders how you got the pit out. Try it. If you prefer the cooked fruit, add the sherry at the end of the cooking period and cool with a cover over them.

"You ask for new ways to fix them. We use them so many ways that it's not a question of what recipes I can give you but rather which ones of the many to give. I'll look over my files and send you a few for each type of thing we like best. Remember that you're getting fruit into your meals, whether it's stewed, in desserts, cookies, cake, in bread, in pie or as a confection."

Here are the recipes I sent her:

Prune and Kumquat Compote

Prepare stewed prunes and pull the pits out. Add sugar to taste to the prune juice, and stew sliced kumquats in that until tender. Mix with the prunes and chill.

Here's a tasty bit to serve with a tomato juice cocktail.

Prunes in Bacon

Prunes, 20's to 30's
Stuffed olives
Bacon cut very thin
Caviar toast strips

Cook prunes until tender and extract the pits. Chop olives fine and stuff the prunes with them. Wrap each prune in a strip of bacon. Thread on skewers and broil long enough to crisp the bacon. Serve very hot with strips of caviar toast.

Prune and Apple Stuffing

Tart apples
Prunes, soaked and pitted

Use equal amounts of chopped prunes and diced apples. Fill fowl three-fourths full.

And here's a new garnish for meat:

Prune Garnish for Meat

12 prunes, 20's to 30's
2 tablespoonfuls chopped onion
2 tablespoonfuls chopped parsley
6 strips bacon

Cook prunes until tender. Cool and split them and remove stones. Fill with onion and parsley mixed together, wrap in half slices of bacon and fasten firmly with toothpicks. Bake in a hot oven (450 F.) until bacon is crisp. Serve as a garnish for roast pork, pot roast or roast chicken.

Prune Muffins

1 cupful small prunes
1 egg
3 tablespoonfuls granulated sugar
3 tablespoonfuls melted shortening
1 cupful milk
2¼ cupfuls flour
4 teaspoonfuls baking powder
½ teaspoonful salt

Boil prunes in water to cover for ten minutes, drain, remove pits, and cut prunes into pieces. Beat egg, add sugar, shortening and milk, and when well mixed, combine with flour sifted with baking powder and salt. Add prunes and beat just enough to mix. Pour into greased muffin pans, and bake about twenty-five minutes in a hot oven (425 F.).

Prune Filled Cookies

Filling

1½ cupfuls cooked small prunes
1 medium sized orange
¼ cupful prune juice
⅓ cupful granulated sugar
1 teaspoonful cinnamon
¼ teaspoonful salt
1 tablespoonful melted shortening
½ cupful chopped walnut meats

Pit the prunes and cut them into small pieces. Peel the orange, cut it into small pieces and combine with prunes, prune juice, sugar, cinnamon, salt and shortening, and bring to boiling point. Let cook until very thick, stirring constantly to prevent scorching. Remove from fire, add nut meats and cool.

Cookies

1 cupful shortening
2 cupfuls granulated sugar
3 eggs, beaten
3¾ cupfuls flour
½ teaspoonful salt
3 teaspoonfuls baking powder
2 teaspoonfuls vanilla

Cream the shortening and sugar, add the well beaten eggs and vanilla and mix. Add flour, sifted with salt and baking powder, and mix well. Divide dough into pieces of convenient size to handle. Work in sufficient flour to make dough of right consistency for rolling out into sheet. Roll very thin. Cut into rounds with cookie cutters. Top rounds should be slightly larger than bottom rounds and have small slits in centers. Place lower rounds on well greased cookie sheet, add a small portion of filling, spreading nearly to the edges. Cover with top rounds and pinch edges or rounds together. Bake in a hot oven (400 F.) for fifteen minutes.

Prune Cake

3 cupfuls small prunes
2 cupfuls sliced bananas
2 teaspoonfuls lemon juice
¼ teaspoonful lemon extract
Seven minute frosting (use 4 egg whites)
3 layers of white cake

Boil prunes in water to cover for twenty-five minutes. Pit 2 cupfuls of these prunes and cut into small pieces. Combine bananas, cut prunes, lemon juice and extract and 1 cupful of the seven minute frosting, blending thoroughly. Spread this between cake layers. Now cover top and sides of cake with remaining frosting. Decorate top and sides with remaining cup of prunes which may be slit on one side, pitted and laid flat.

Icebox Fruit Cake

1 cupful candied cherries, cut in quarters
⅓ cupful finely cut candied orange peel
⅓ cupful finely cut candied lemon peel
1½ cupfuls puréed prunes
1 cupful puréed apricots
1 cupful granulated sugar
1½ cupfuls seedless raisins
1 cupful orange juice
1 teaspoonful cinnamon
1 teaspoonful allspice
1 teaspoonful nutmeg
1 teaspoonful brandy flavoring
4 tablespoonfuls granulated gelatin
1½ pints whipping cream
1 cupful walnut meats
¾ cupful finely cut citron

Combine fruits, preserved peels, purées, sugar, orange juice, spices and brandy flavoring. Let stand for 1½ hours. Heat to the boiling point and remove from fire. Moisten gelatin in cold water and dissolve in hot fruit. Cool. Whip cream until thick but not stiff. Fold cold fruit into the cream. Chop walnuts fine and sprinkle over bottom of a ten-inch tube cake pan. Pour cream mixture over nuts. Place in refrigerator overnight but do not freeze. Slice and serve.

Prune Cream Cookies

1½ cupfuls small prunes
1½ cupfuls brown sugar
⅓ cupful shortening
1 cupful sour cream
2 eggs, beaten
1 cupful rolled oats
3 cupfuls flour
4 teaspoonfuls baking powder
½ teaspoonful soda
½ teaspoonful mace

Boil prunes in water to cover for twenty minutes; drain, remove pits and cut into pieces. Cream sugar with shortening and add sour cream and beaten eggs. Grind rolled oats. Combine liquid mixture with ground rolled oats and flour sifted with baking powder, soda and mace. Add prunes and beat thoroughly. Drop by small spoonfuls onto a greased pan. Bake from ten to twelve minutes in a hot oven (425 F.).

Prune Whip Pie Filling

3 cupfuls prune pulp
⅔ cupful sugar
2 egg whites
⅔ cupful chopped walnut meats
1 pie shell
1¼ cupful whipping cream
2 tablespoonfuls sugar
1 tablespoonful vanilla

Mix prune pulp and sugar. Beat egg whites until stiff. Combine pulp and egg whites and add nut meats. Fill baked pie shell and cover with cream, whipped, sweetened and flavored. Have all ingredients very cold and serve as soon as possible after combining.

Prune Whip

1½ cupfuls cooked small prunes
⅛ cupful powdered sugar
½ teaspoonful cinnamon
¼ teaspoonful grated fresh orange rind
Few grains salt
½ pint whipping cream

Pit prunes and cut into small pieces; add sugar, orange rind, cinnamon and salt, and mix. Whip cream until thick but not stiff. Fold prune mixture into cream a small portion at a time. Chill thoroughly but do not freeze.

Sour Cream Prune Pie

1 cupful prunes
4 egg yolks
1½ cupfuls sour cream
½ cupful sugar
⅛ teaspoonful salt
¼ teaspoonful nutmeg
1 teaspoonful cinnamon

Wash prunes and soak in warm water for 3 hours. Drain thoroughly and chop. Beat egg yolks and add sour cream. Add sugar, salt, nutmeg, cinnamon and prunes. Line a pie pan with plain pastry and pinch with fingers to make a fancy edge. Pour in pie mixture and bake in a hot oven (400 F.) ten minutes. Reduce heat to a slow oven (300 F.) and bake about twenty minutes. Cover with meringue and return to oven to brown.

THIS DELICIOUS ICEBOX FRUIT CAKE INCORPORATES PRUNES.

Prune Macaroon Fluff

3 egg whites
½ cupful prune pulp
¼ cupful sugar
2 tablespoonfuls lemon juice
2 tablespoonfuls crushed macaroons

Beat egg whites until stiff. Mix prune pulp, sugar and lemon juice and fold this mixture and macaroons into egg whites. Pour into individual cups and set in a pan of water. Bake in a moderate oven (350 F.) until mixture is dry when knife is inserted. This will take about three-quarters of an hour. Cool slowly. Serve with whipped cream.

Baked Prune Whip

2 cupfuls cooked small prunes
1 teaspoonful grated lemon rind
2 teaspoonfuls lemon juice
4 tablespoonfuls powdered sugar
4 egg whites

Pit prunes and mash well. Add grated lemon rind and juice and 2 tablespoonfuls of the sugar, and blend well. Beat whites of eggs until stiff, add 2 tablespoonfuls powdered sugar and continue beating until stiff. Fold prune mixture into egg whites. Pile lightly in a baking dish and bake in a moderate oven (350 F.) for from twenty to thirty minutes.

Jellied Prune Pudding

⅛ pound small prunes
2½ tablespoonfuls granulated gelatin
½ cupful cold water
1 cupful sugar
¼ cupful lemon juice
Boiling water, about 2 cupfuls

Wash prunes thoroughly and cook in boiling water for twenty-five minutes. Remove pits and cut prunes in quarters. Add enough boiling water to the prune juice to make 2 cupfuls. Soak gelatin in cold water for five minutes; then dissolve in hot prune juice. Add sugar and lemon juice. Strain. Allow to cool.

Fold in prunes as mixture begins to set. Place in molds and chill. Serve with sugar and cream or a custard sauce.

PRUNE CREAM

1½ cupfuls cooked small prunes
½ cupful prune juice
½ cupful granulated sugar
4 teaspoonfuls lemon juice
½ teaspoonful cinnamon
¼ teaspoonful salt
1 tablespoonful granulated gelatin
2 tablespoonfuls cold water
5 egg whites
1 teaspoonful vanilla

Pit prunes and mash to a pulp. Combine prune juice, sugar, lemon juice, cinnamon and salt in a saucepan and heat to the boiling point; continue boiling about two minutes and remove from fire. Moisten gelatin with cold water, add to hot juice and stir until gelatin is dissolved. Beat egg whites until stiff. Pour hot juice over egg whites and fold together gently. Add vanilla and prunes and mix thoroughly but lightly. Pour into mold which has been moistened. Chill. Unmold and serve with a soft custard.

And here are some confections the children will like:

PRUNES IN ORANGE PEEL

Prunes, 20's to 30's
Grated orange peel mixed with granulated sugar

Wash prunes and steam in colander over water for one hour. While hot, make a lengthwise slit and remove pits. Stuff one prune with another, then roll in orange peel and sugar.

STUFFED CANDIED PRUNES

1 pound prunes, 20's to 30's
Pecan nut meats
½ pound sugar
1 cupful water
2 lemons, sliced

Wash the prunes and remove the pits, making a lengthwise slit and then running the tip of a very sharp knife down on both sides of the stone. Fill the prune cavity with pecan meats and press the slit together. Drop into a syrup made of the sugar and water, add the slices of lemon and simmer very gently until the prunes are tender and well glazed and the juice is almost entirely absorbed. Drain, and when prunes are cool, roll them in granulated sugar.

CURIOUS STORIES ABOUT HEALTH

The Eighteenth of a Series by MELVIN PRICE ISAMINGER

O. M. Olsen

THE EYES of the world were on George Washington when he was acclaimed commander-in-chief of the Continental Army. Imagine that magnificent Washington at 43—a physical model of poise and power, a symbol of buoyant health. Who would have dreamed that he, when he was 26 years old, had returned to Mount Vernon weak from fever and dysentery, his spirit broken, a sick man, after grueling hardships and frontier fights under General Braddock? He himself is said to have remarked, "Death will soon overtake me."

What had Washington done during those sixteen years to restore his health? Every school child knows the story. What a lesson in hygiene! How clearly it shows the body's response to good treatment and the wisdom of living alert to the causes of health!

DIETING DAUGHTERS

JANE FOSTER Discusses Some Mistaken Ideas on the Subject of Ideal Weight

MANY OF us who have passed the quarter century mark or the half century are inclined to conclude that whereas our weight may not coincide with what is considered "ideal" by the actuary tables, still, no doubt, it is ideal for us. A comfortable conclusion, but scarcely scientific; and it is not the conclusion of the younger age group, even when the actual weight coincides fairly well with the actuary tables. Where, indeed, do these sylphlike, matchstick youngsters who come to us asking "how to reduce" get their idea of "ideal?" Of all the conditions found on the examination of large groups of young women, underweight is among the most universal and likewise the most potentially dangerous.

By ideal weight is generally meant the actuary table standards based on considerations of height and age. These were constructed some twenty odd years ago, when conditions of life differed from the present. They represent the universal, the average; but there is no particular justification for assuming them to be ideal in any biologic sense. They stand for the actual weights of a large number of persons, but it may well be that the whole population tends to be too heavy or too light for the highest health standard, the curve of weights thus being skewed because of some factor, such as contemporary food habits, sedentary living or style in dress, which tends to influence the population as a whole. The statistics of the Metropolitan Life Insurance Company seem to indicate that the average is not the ideal, for they have found it an advantage for the person under 30 or 35 to be over the actuary standards and for the older individual to be below these figures. In other words, be overweight if you are under 30, be underweight if you are above, and your expectancy for life and health can be increased.

In examining the actuary tables of a specialized group, the college women, it becomes apparent that some special factor is operating, for the curve for this group does not fall on that for the whole population of the same age. These are young women who have had, on the whole, better environmental conditions—better food, better care, better surroundings. Their stature bears this out for their height averages 1.16 inches more than that of other girls their age. Their height then correlates with their better environmental background. But look at the figures for weight! In an article entitled "Heights and Weights of American College Women," which appeared in *Human Biology* (December 1933) Dr. H. Diehl estimates that about one half of all college women are underweight. At 16 years the college girl is 5.01 pounds heavier than the average girl of her age; but at 17 she has lost that advantage, and for the rest of her college course she averages some 3.83 pounds lighter than the other 19, 20 and 21 year olds. How did she get left behind? It cannot be laid to a deficient college dietary, for the figures come from coeducational institutions, and the college girl's college brother maintains his lead over the general average throughout his college course. The coefficient of correlation between his height and weight is also significantly higher than hers. To what can this differential be attributed? It seems safe to say that the factor operating on the women and not on the men, which comes into prominence during this later stage of adolescence, is the arbitrary influence of prevailing styles and the dieting to achieve this end.

THERE is then the problem of the girl of 18 or 19 consciously controlling her own weight at a standard below that for good health. Now the greatest cause for death in this age group is tuberculosis, which has the predisposing factor of malnutrition. It is interesting to point out here that the tuberculosis rate for women is one-third higher than that for men. The greatest morbidity in college health service records comes from infections of the upper respiratory tract, and these too go with pronounced underweight. Other companions of underweight may be irritable dispositions and loss of efficiency. Those who work with this age group are frequently impressed with the large number who complain of fatigue and of general dissatisfaction with life. The mental health side of the picture should not be overlooked. The exchange of an abundance of "joi de vivre" for a jaded appetite and jagged nerves seems sorry change indeed, despite the slim figure that may result.

The real citadel of the dietary fad is, of course, appearance. If it were possible to launch a satisfactory campaign against the present esthetic standards that allow big bones combined with excessive thinness and a wornout appearance to be considered beautiful in themselves, it would indeed be a service to posterity. Even beauticians and the manufacturers of cos-

THE DIET SYSTEM APPARENTLY FASCINATES THEM BY ITS RITUAL AND STOIC DEMANDS. I HAVE KNOWN OF A COLLEGE GIRL WHO FAINTED FROM STARVATION ALTHOUGH SHE SAT THREE TIMES A DAY BEFORE A WELL LADEN TABLE.

metics, mighty philosophers, have mentioned the relation of health and beauty, but they have failed to establish the esthetic standard that would coincide with the best health. The style that permits excessive slimness exists. From where did it come? Some say it had its rise in the feminist movement with the aping of men's styles and figures. Then the cure for the craving for thinness—and it can hardly be called less than a craving—must lie in changing the prevailing styles.

It is a genuine problem, for the girls seeking to reduce below their correct weight often find improper means of doing it. They lose more than just weight, as they are ignorant of what constitutes an adequate diet. The desire to be thin is exploited by advertisers and commercial producers, just as the desire to be well is exploited by "patent medicine" promoters, and the desire to be rich, by the stock promoters. If one half of the college girls are underweight it is almost safe to add that the other half wish they were.

As a result there have appeared on the market foods reputed to be "thinning," drugs, such as cathartics, thyroid compounds and dinitrophenol derivatives, and a host of mechanical contrivances, including belts and girdles, all dedicated to the same high purpose of forcibly creating the desired thinness.

To all these the college girl turns a deaf ear. She is intelligent, so she thinks, and is aware of the danger or of the futility of the aforementioned methods. But to the fourth menace, the so-called dietary regimen or system, she falls victim. Perhaps it is the "scientific" explanation accompanying these systems that makes them so appealing to our aspiring intellectuals. They fall prey, they pay homage, to the meal of bananas and milk, to a week of fruit juice and toast, despite the monotony, the loss of energy and the lowered vitality. For some peculiar reason the ensuing symptoms seem to them on a higher plane than if they resulted from taking a drug or from rigorous eliminative treatment. The diet system apparently fascinates them by its ritual and stoic demands. I have known of a college girl who actually fainted from starvation although she sat three times a day at a well laden table. It makes one question the omnipotent instinct of the will to live.

Now most of these diets do what they purport. They lower weight—if, that is, the dieter can stick to them. They do it on the simple principle that what you don't eat won't fatten you. And indeed, results from these dietary regimens would be far more startling in mortality and health impairment were it not for the difficulty in remaining on them for any considerable period. As an example of the ridiculous lengths to which some of these programs go, let me refer to the "McCoy diet," the "fast way to health." The slogan apparently is, "Starvation cures all."

However, even the resourceful Mr. McCoy realizes that not all prosper on this regimen, for says he, the infallible, "The habit of eating three meals is so firmly established that people have died in a few days from fear of starvation alone!" Odd, is it not? The converts to the system succumb to their own assumptions!

But the college girl is too sophisticated for such a naïve system as Mr. McCoy's. She likes her starvation in a more disguised form. Consider the Hollywood diet for example. Its ideal medium is a college group away, perhaps for the first time, from the ridicule of a more stable family population and the jeers of elder brothers and small siblings. This delectable diet which goes into office for an eighteen day period (it may be repeated after that if desired) might have been promoted by the citrus fruit growers and the manufacturers of a prepared toast. Both items are featured in the dietary, along with raw vegetables and coffee. Interest is kept up by slightly varying on successive days the amounts of each item allowed at a meal. It is, of course, a despicable diet, with calories totaling somewhere between 600 and 700 daily and deficiencies in carbohydrates, fats and proteins, the minerals and vitamin A. It has, however, had amazing popularity and has chalked up a number of deaths to its credit.

ANOTHER popular diet is that of "Dr." Hay. His injunctions include eating sparingly and only if hungry, and on no account eating "antagonistic" foods in the same meal. This confuses the stomach, he argues, so that, unable to decide whether to turn on the acid-digesting or the alkaline-digesting apparatus, the stomach does nothing, and indigestion results. So, he warns, it is imperative to eat only proteins one meal and save carbohydrates for another. He also advises the use of a cathartic, daily enemas and his own health sanatorium. He neglects of course the facts that few foods are wholly either carbohydrate or protein, that the stomach is always acid and that digestion may also occur in the intestinal tract.

Even more intensely "promotorized" is the Hauser diet, which concentrates not only on cathartics and enemas but on the drug preparations of a particular company.

What the college girl really likes, of course, is the diet supported by real scientific investigation. The "banana and milk" diet suits her beautifully. It is cheap; it is palatable; it is easy to get, and it is satisfying. It consists of six bananas and four glasses of skimmed milk a day for a period of two weeks, followed by a moderate diet of 1,200 calories for a second two weeks, including eggs, green vegetables, lean meat and a little butter. After this a return to the stricter regimen of bananas and milk can be made. It is difficult to see, however, how college work and college life can be maintained on a caloric allowance of from 700 to 1,000 a day. An overweight individual might undertake such a procedure under a doctor's care with less danger to herself than from other diets; but for an active youngster, possibly already underweight, to do so is downright ridiculous. Yet it is done.

Other diets that have had their run of popularity include the exclusive raw tomato and hard boiled egg diet, the lamb chop and pineapple diet, and the baked potato and buttermilk diet. Each lacks certain food elements and by the mere factor of monotony tends to be self limiting in quantity. It is safe to say they are all hard on the disposition. A certain heartiness, present at the medieval boards groaning with their venison and puddings, their hogsheads and pheasants, is noticeably lacking at these two-item meals.

ANOTHER form of dietary limitation not usually employed for reducing purposes is vegetarianism, sometimes accounted for on a moral basis, sometimes on one supposedly scientific. A difficulty in an institution dining-room is the fact that adequate substitutions cannot usually be made in the form of nuts, cheese, eggs and milk, and the individual is partially starved in spite of himself. As Mr. Malmberg points out in his book, "Diet and Die," vegetables are less nourishing for their bulk, and the cow, to be satisfied, must eat all the time. Few school vegetarians are in a position to do the same.

Diet systems such as these predispose to colds, pneumonia and infections. All these might normally be handled successfully, but in its undernourished condition the body is unequipped to deal with them. There is danger of vitamin deficiency, anemia, falling of abdominal organs, menstrual difficulties, sterility and acidosis. Loss of life is not infrequently associated with severe dieting. In Hollywood alone there are the fatal cases of Leta Lee and Barbara LaMarr, both on reducing diets; of Renée Adorée, who "watched her calories" at 107 pounds and contracted tuberculosis; of Louis Wolheim, who tried to lose 25 pounds in one month to fill a part in "The Front Page," and who died shortly from an appendectomy because of insufficient reserve strength to allow recovery.

Surely the maintenance of proper weight standards belongs to the realm of preventive medicine. New fads should be investigated, their authorizers scrutinized and their deficiencies sorted out. In addition there is need of influencing the contemporary idea of what constitutes "ideal" weight. Perhaps this awaits the benediction of some actress who will champion our cause and change the prevailing mode; or perhaps the influence of scientific evidence and educational advance will be felt by the intellectual fledglings in our schools and by the workers in our offices.

THE EYES HAVE IT!

By MORRIS D. KELLER

IMAGINE FOR a moment that a clever inventor has devised an apparatus which, although intricate in structure, is no larger than a good-sized grape. It discloses in the space of a split second the character of an individual, his mood, temperament and emotions. These any observer may see; but to the trained one, this mechanism is also able to reveal many of the defects and diseases that human flesh is heir to, in some instances long before the patient even suspects that he has any ailments. "Remarkable," you undoubtedly say, "but impossible!" No, not impossible, for such a revealing mechanism does exist! It is the human eye!

Look, for instance, at that woman sitting opposite. She has her scarf tight about her neck and over that her upturned coat collar. You think she is protecting herself against cold? Wrong, my dear Watson! Look at her eyes. Notice how they bulge, and see how the whites of the eye show all around the pupil. She is hiding from public view a swelling of the neck, an enlarged thyroid gland or goiter. The diagnosis is practically confirmed by her trembling hands. Bulging eyes, or exophthalmos, and tremor of the hands are two important symptoms in thyroid disease.

Observe that young man reading his newspaper. How old do you think he is? "Oh, 28 or at the most 30," you say. Wrong again! He is at least 40. The manner in which he reads the paper tells the story. He finds it difficult to read at the normal distance of 14 inches; so he holds the script farther away in order to see better. Presbyopia, or old sight, has set in. This is a physiologic change that occurs in every eye at the age of 40 or soon thereafter. The lens of the eye has become less elastic than normal and cannot accommodate any longer for the customary near point.

Over there is a child not more than 3 years old. Although he is too young to be able to read, even without a vision test it is evident that the child is farsighted and needs eyeglasses. How is that fact deduced? The child is cross-eyed, and either one or both pupils turn inward toward the nose. Had they turned out, the condition would have been a nearsighted one. A correction of the refractive error by proper eyeglasses at this early stage not only will correct the cross-eye but will obviate the need of an operation at a later age for cosmetic reasons.

These are examples of some of the simpler conditions that can be recognized even by the layman. Now let us see some of the more complex ones that physicians have seen and described.

At one of the larger eye clinics in New York City a doctor was able to tell from the eye examination alone what food the patient had been eating, or rather, what he had not been eating. The doctor saw at once that one eye had no vision; the entire visible part of the eyeball was dry, scaly and opaque. He diagnosed the condition as xerosis, which is caused most frequently by a deficiency of vitamin A, plentifully present in butter. On questioning the patient, a Russian, the doctor was informed that the patient had never eaten even the smallest particle of butter.

Recently a young man was seen walking unsteadily down the street. Grinning foolishly, he stopped passersby and asked them whether they wanted to buy shoes. Without waiting for a reply he went through the motions of extract-

NOTICE THAT WOMAN WITH HER COAT COLLAR BUNDLED HIGH? HER BULGING EYES REVEAL THE REASON FOR THIS.

ing an imaginary shoe box from an imaginary rack. The usual curious group of children and adults followed him and had a great time teasing a "drunk." Some one called a physician. In the course of his examination he looked at the eyes; the pupils were so widely dilated that the iris, the structure that gives the eye its distinctive color, could barely be seen. The doctor realized at once that the overstimulation was due not to alcohol but to another drug, belladonna, or its alkaloid, atropine. Prompt treatment cleared the mental confusion.

CONVERSELY, an exceedingly contracted pupil, a pupil of pinpoint size, is indicative of an excessive use of opium or morphine. Criminologists and writers of detective stories have made use of the causes of the dilated or the contracted pupil to build up their cases against suspected murderers.

When Shakespeare referred to a "jaundiced eye" he meant an eye that saw everything discolored, an eye that saw everything with prejudice. To the physician such an eye, in which the white part of the eyeball has a marked yellowish tint, signifies liver or gallbladder disease or possibly a cancer of, or near, these organs, causing interference with their function. Other discolorations of the eye may be briefly mentioned. "Pink-eye," as it is popularly known, is an acute epidemic inflammation of the eyeball due to a virulent germ such as the pneumococcus or to the pseudodiphtheria bacillus. A "red" eye indicates irritation or inflammation from colds, dust or smoke but may be due to more serious causes. A "black" eye can mean whatever one may wish to suspect.

Strange as it may seem, the only part of the human body where one can see and study a living artery, vein or nerve is in the eye. With

an ophthalmoscope one can look into the back of the eye, the fundus, see these structures and, studying them, discover diseases not only of the eye but of other organs of the body also. The following account is an instance.

A YOUNG woman consulted her oculist because she noticed that the vision in one eye was somewhat blurred. She informed him that within a short time she had undergone several examinations for this condition; that three or four different pairs of eyeglasses had been prescribed but without any improvement. The blur became so annoying that she consulted an eye physician. He elicited the fact that she had frequent headaches and was often nauseated. She attributed these symptoms to "indigestion." The oculist, in using his ophthalmoscope, was immediately struck by the abnormal appearance of the optic nerves. They were swollen and raised higher than normal. Normally, the center of the nerve is depressed. He suspected a brain tumor. She was referred to a neurologist, and he ordered a ventriculogram. This is an x-ray photograph of the brain, requiring a highly specialized technic. The diagnosis was confirmed. An immediate operation was ordered. Delay would have caused blindness, first in one eye and then in the other, with death as the final outcome.

Ordinarily, a pupil contracts when a bright light is thrown on it. This is called the pupillary reflex. It also contracts when it focuses from a distant to a near point. This is called the accommodation reflex. In the latter part of the nineteenth century, Dr. Argyll-Robertson of Edinburgh was first to point out that in locomotor ataxia, a chronic disease of the spinal cord, the pupillary reflex is absent while the accommodation reflex is unaffected. Not only was this found to be true in those who already gave positive symptoms of the disease, but it was found present long before other definite symptoms of ataxia developed. Thus he could diagnose this condition in its earliest stage.

This combination of reflexes has ever since been known as the Argyll-Robertson pupil. To describe it, however, was always a stumbling-block to the medical student. He would invariably forget which reflex was present and which one absent. But necessity, being the mother of invention, showed one clever person a simple method of remembering. He took the initials of Argyll-Robertson Pupil, A. R. P., and made them stand for Accommodation Reflex Present. He then reversed them and interpreted the P. R. A. as Pupillary Reflex Absent. The discoverer, being unknown, is as yet unhonored by appreciative medical students.

Apropos of locomotor ataxia, attention may be called to an interesting eye phenomenon. The most important factor in the etiology of this disease is syphilis. As the name indicates, it is characterized by a peculiar ataxic means of locomotion. Dr. R. W. Wilcox, in his book "The Treatment of Disease," describes it as follows: "The patient walks with the legs widely separated and the body poorly balanced, he lifts the feet too high and plants them too forcibly, bringing down the heel with a stamp, the steps are irregular in length, he staggers and cannot walk in a straight line, especially if the eyes are closed."

However, the eye may show the presence of this disease long before the ataxia manifests itself. The Argyll-Robertson pupil is one warning sign. Another is the atrophy of the optic nerve; when the atrophy in the nerve occurs early, the peculiar ataxic gait rarely sets in.

We have seen how the excessive use of atropine or morphine was recognized by the dilated or the contracted pupil. The excessive use of arsenic can also be recognized through the examination of the eye. This is of great importance, especially in syphilis, for which the arsenicals are the treatment par excellence. The first sign of paling in the nerve head warns the physician to discontinue this line of treatment.

Arteries pulsate, and veins do not. In the eye the reverse is true. A pulsating central vein is normal. A pulsating central artery is indicative of valvular disease of the heart, an aneurysm of the carotid arteries, anemia or exophthalmic goiter. The blood vessels often rupture, and the resulting hemorrhage into the retina causes an inflammation to be set up. Diabetes, kidney disease, anemia and leukemia are, to mention only a few, recognized by the particular type of retinitis each produces and are frequently diagnosed first by the oculist.

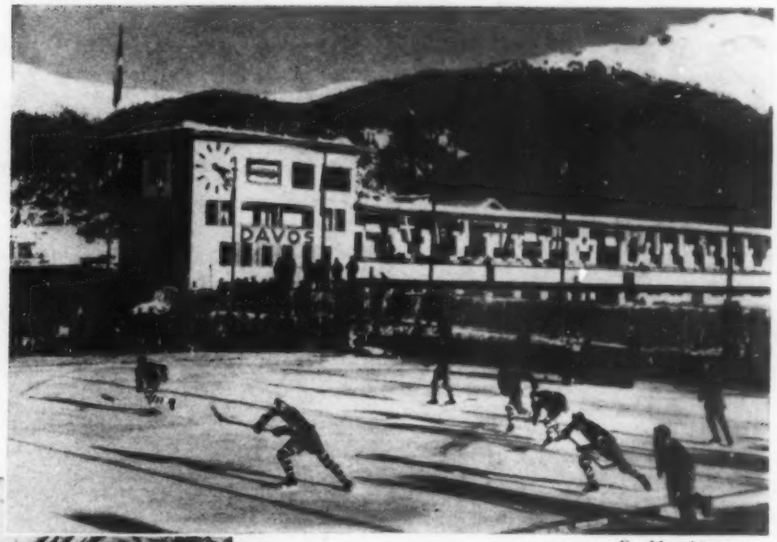
SO MUCH for the medical aspects. What has the layman seen in the eye? We can get an idea by glancing through literature. There we find that the eye has been variously described as laughing, smiling, gleaming, flirting, piercing, probing, penetrating, leering, sneering, quick, cold, greedy, sensuous, tired and contemplative and that references are made to persons who are lynx eyed, hawk eyed and Argus eyed.

Aye, the eyes have it! They have the power to reveal hidden facts which become extremely valuable when known; they have the power to reveal secrets better left unknown. They have been truly called "the windows of the soul." They are the windows of the body too.

Listen to the Immortal Bard as in "Love's Labour's Lost" he sings their praises:

> Why, all his behaviours did make their retire
> To the court of his eye, peeping thorough desire:
> His heart, like an agate, with your print impressed
> Proud with his form, in his eye pride expressed:
> His tongue, all impatient to speak and not see,
> Did stumble with haste in his eye-sight to be;
> All senses to that sense did make their repair,
> To feel only looking on fairest of fair.
> Methought, all his senses were lock'd in his eye,
> As jewels in crystal.

On the WINTER SCENE



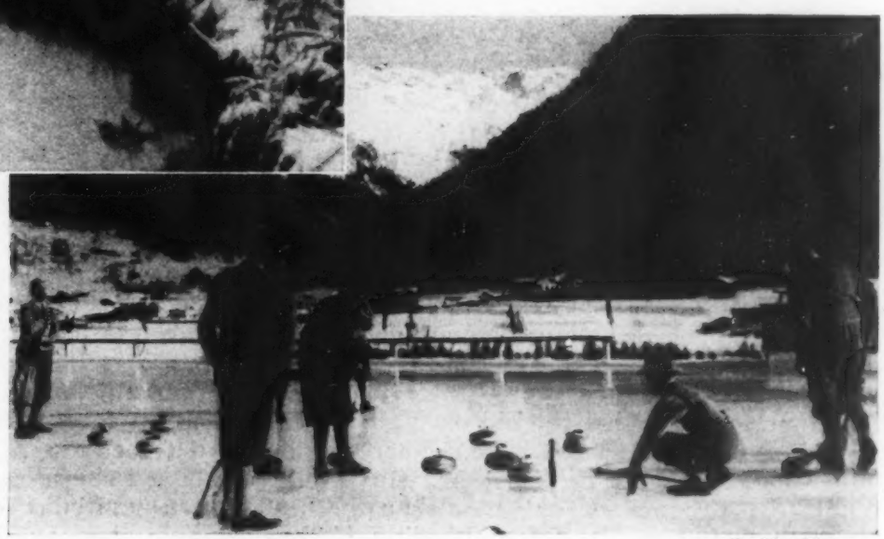
E. Meerkämper

WHEN THE PUCK GOES SKIMMING INTO ENEMY TERRITORY THIS EAGER SWITZERLAND HOLIDAY THRONG FORGETS ITS POLITICAL NEUTRALITY AND FRENZIEDLY CHEERS FOR THE HOME TEAM.

Philip D. Gendreau

NOW THERE IS FROST
UPON THE HILL
AND NO LEAF STIRRING IN THE WOOD:
THE LITTLE STREAMS
ARE COLD AND STILL;
NEVER SO STILL HAS
WINTER STOOD.
—George O'Neil

THEY CALL THIS INTERESTING PASTIME "CURLING"—DO THESE ENTHUSIASTS AT DAVOS, SWITZERLAND. IT IS PLAYED WITH "STONES" VARYING IN WEIGHT FROM THIRTY-FIVE TO SEVENTY-FIVE POUNDS APIECE.



E. Meerkämper

THE RELATION OF PARENT AND CHILD

By
Harold A. Rosenbaum

N. Thorp-Humphreys

WHY SHOULD WE ATTEMPT TO MAKE THE CHILD COLD AND HARDENED BEFORE HE GOES OUT INTO THE WORLD? LET HIM EARLY FEEL LOVE AS AN IDEAL, FOR HE WILL ADJUST HIMSELF TO THE WORLD LATER IN HIS LIFE.

THE RELATION of parent and child is the most important thing in the world, and yet no other thing of such great importance is taken so much for granted. Because the child is such a free gift of nature it is assumed that his intelligent rearing and guidance are also a free gift. Nothing could be further from the truth.

From an early period the parent himself has a duty to the child. It increases as the child begins his static and speech development and grows ever more as the child gets up onto his feet and realizes that he is in a world full of wonders. These periods require intelligent, patient, encouraging and loving care. The mother and the father too, so far as he has time, can usually supply these requisites far better than the best intentioned and most efficient hireling, if they will give the matter the study and thought it deserves.

USUALLY the caretaker of the infant and the young child feels that her job consists of physical care. The training, background and experience of most of these caretakers is not as broad as that of the parents. What training the nursemaid has is usually the care of infants and children in an institution, and her work consists in some part of their daily physical care. The housemaid does not have even this training in physical care, and she is often required to rise at 6 o'clock to give the baby his bottle in addition to giving considerable attention to the child during a long day ordinarily full of household duties. She is often under less tension than

the mother and in this respect may have an advantage. But the selection of such a helper requires the greatest discrimination. Many mothers would be surprised to know what often goes on when they are not present. The function of nursemaid and housemaid should be as an assistant to the mother, not as a person who takes over the entire care and rearing of the child.

During the first two years the child gets his feeling of security or insecurity in life. Though this can be somewhat altered later, the early pattern as established is the one which becomes reflex, or "second nature." It has a far-reaching effect on the child's entire social development in the time to come.

Feelings of security and confidence in his parents, fostered at an early age, are most valuable assets for future close guidance by the parents. If these attitudes are developed the child is apt to solicit the parents' opinion and guidance throughout the years.

THE usual obstacles to this end are lack of parental patience, understanding and sympathy, and often the child is not given sufficient time by the parents. This is commonly true of the father, but often the mother is guilty also because her so-called social duties demand her time for luncheons, bridges and so forth. The child is frequently just a by-product of the household, and the home association of the child is largely with hired caretakers. The mother should unquestionably have periods of freedom from the child for her own recreation, and she and the child are both better for it.

Each act of the child should be met with encouragement, perhaps only with an interested expression, but never let it be met with indifference. Frequently the child's attempts to express himself verbally are hardly heeded. The stimulation to any self expression is certainly aided by a loving ear and a response, keeping in mind the point of view that one is dealing with a responsible, unfolding individual who deserves only the best consideration. I am sure from experience that such infants respond in kind.

Other activities, including physical action, deserve the same sympathetic encouragement. The child is too often compelled to sit in his buggy when outdoors, apparently so that the nurse can visit with other nurses. Children are creatures of activity, and this must be encouraged if the child is not to become a frustrated, passive or negative individual. The father should know this as well as the mother, for he will be greatly rewarded by understanding the child and giving him companionship. The old-time paternal discipline will not then be necessary.

The psychology of J. B. Watson as regards demonstrative affection is not now widely accepted. Watson thinks that the child will not be able to cope with the hard world if he is treated affectionately. "Send the child to bed," he says, "with a pat on the head." Why should we attempt to make the child cold and hard before he goes out into the world? Some of the parents who have been willing to accept this teaching and to experiment thus with their children have had great disappointment. It is the old story of trying to go contrary to nature. Without being sentimental, I am sure that children blossom and develop much better under the influence of warmth and love than under that of cold intellectual treatment. Let the child early feel love as an ideal, for he will adjust himself to the world later.

Parents always need to exercise care in teaching children. A child should be helped to learn about whatever interests him. This story is told of Roscoe Pound, dean of the Harvard University Law School. One time during boyhood he went swimming and saw some butterflies. On coming home he asked his mother about them; seeing that he was interested she supplied him with everything obtainable about butterflies. He is said to have become quite an authority on them. This habit of thorough study of whatever he was interested in was continued throughout his courses; not only is he now a world authority on international law, but he is also deeply informed in many subjects, such as masonry, botany and literature.

IT IS often inadvisable to attempt to teach a child about things in which he does not show an interest, and real trouble may result in an attempt to force a child to learn something above his age level. I recently saw a child of 5 years whose foster parents were trying to force him to tie his shoes. He could lace his shoes, which is an activity suited to his age level. Tying, however, is suitable to a 7 year level. He was called "dumb" by these foster parents, and I think that the child was convinced that this was true. Incidentally that is one of the best ways to develop an inferiority complex in a child.

Children are taught many things in a manner too urgent. Table manners and general conduct are examples. It is not often necessary to tell a child to say "please" and "thank you." If one is careful to speak with consideration to the infant or child just as one would to an adult, these forms of politeness develop naturally. Table manners are a more formal and conventional acquisition, and an occasional explanation of the proper usage is necessary. However, strict adult practices should not be insisted on. For example, in young children the spoon may be used in place of the fork when it seems easier. Here again, good examples help, though occasional suggestions are also needed.

In general, children should receive praise liberally so that they will respect their own char-

acters and their abilities and will have a high standard to live up to. Many of the little objectionable acts should be overlooked, and much should be made of the good deeds and accomplishments. This is the way to develop the child's pride in himself. That is one of the reasons why one should not humiliate a child by rudely disciplining him before others.

Of course all children have to know discipline at times, but then adults sometimes need it too. In young children under 3 years of age, sudden corporal punishment at the time that the infraction is committed is occasionally necessary, though other methods often work. One must be sure, however, if one administers corporal punishment that the child realizes that he has transgressed and that he associates the punishment with the misdeed. One should not go about angry for a long time afterward. Forget the misdemeanor immediately. Never let a child feel that you are carrying around a grudge.

In older children, if punishment is made as much as possible a natural consequence of the misdeed the justice of the punishment is felt. If John or Mary dawdles over homework or puts it off, of course there is no time to indulge in the desired recreation. Another example of the efficacy of "making the punishment fit the 'crime' " occurred last Easter. A boy of 5 pelted eggs at some other children. He was not permitted to wear his new Easter suit for two weeks. This, the grandmother affirmed, was adequate punishment. Such punishment sometimes proves more effective than corporal punishment in developing in the child a sense of responsibility for his conduct.

One point about conduct is so frequently overlooked that one wonders whether it is unknown or whether its importance is not realized. When the child cries or talks loudly either from fear or from anger, the parent grows excited and raises his voice above that of the child. This further excites the child, and in turn he cries louder and makes the parent more excited. Thus a vicious circle results, and a situation is created that gets out of control. If the child loses control of himself, and this applies also to the young baby, then the parent should be entirely calm and controlled. He should speak in a low tone of voice and act in a quiet, self possessed manner. If he will do so and wait until the child perceives this, the matter will be entirely in the parent's hands, and a much more sane solution will result. Similarly a child irritable or crying because of fatigue or hunger needs soothing treatment.

Your child's social development is one of the most important means of his success and happiness in life, and it is an important factor in his mental health. The development of social graces should be started early. That is one important reason for the nursery school. From the earliest time the child should be encouraged to play in a free way with those of his own age. Like any other habit, this one of being at home with one's peers is a matter of development. This is the reason that games and sports are so valuable. The parents should see to it that physical skill and skill in games are a part of the child's education.

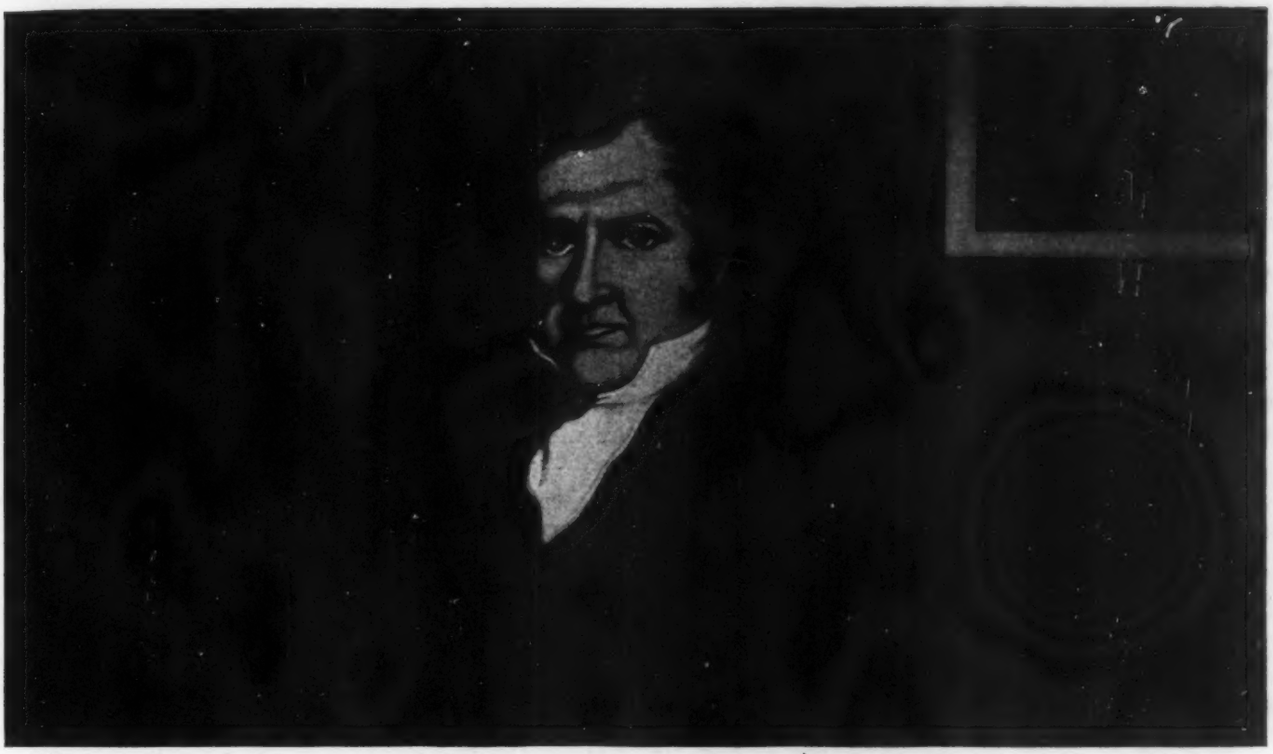
Recreation and social development are necessary to a child's mental health. A young girl, who had been a fine student throughout high school, completed her university course when much below the usual age. She entered into few activities, however, had no close friend of her own age and naturally became self centered. After she obtained a position in a large commercial house, she brooded because advancement was not more rapid. This became an obsession with her until she is now in an institution for the insane.

Another case is that of a girl of a fine physical and mental type who is in the first year of high school. She is an only child, and her time away from school is spent doing homework, reading, practicing the piano and going to church. Recently some nervous and hysterical symptoms developed which are evidently the result of this unnatural recluse existence. It was suggested that she become a member of a Girl Scout troop. She herself was enthusiastic about the idea as were her parents. With this wholesome influence and some other corrections the outlook for her should be favorable.

As we say about so many things, the first years are the hardest. By the time the child is Cub Scout age his character should be well developed. Cub Scout and Scout troops and other similar organizations can do much to continue the work begun at home, as they further the training in integrity, independence and social development as well as supply wholesome recreation and instruction in a valuable and delightful manner. The parent should realize of what help these organizations can be and should encourage the child's activity in them.

It is well for parents to remember that they will gain much by understanding their children and assuming a part of their care themselves. This is especially important during the first two years. Children need encouragement, praise and some demonstration of the love that the parents feel for them. Children should develop what they are interested in, and teaching should not be above the child's normal possibility of accomplishment. Considerate conduct and good manners on the part of the parents go a long way in developing these traits in children.

Social development may start early, and when the child is older, boys' and girls' organizations bring out this side of the personality. They also supply means for recreation and character development.



RICHARD BRIGHT

(1789-1858)

A Distinguished Pioneer Physician and Investigator

By ADOLPH BEILIN

RICHARD BRIGHT, physician extraordinary to the queen, president of the Royal Society and member of many other learned bodies, was born at Bristol, England, Sept. 28, 1789. His boyhood education was acquired under private tuition. In 1810 he matriculated at the University of Edinburgh where he studied political economy, philosophy, mathematics and anatomy for a period of two years. Then he embarked on an expedition to Iceland in order to investigate the plant and animal life of that country. Shipwrecked on his homeward voyage, he nearly lost his life. This exciting excursion he recorded in a paper on the botany and zoology of Iceland which was preserved in a work on the history of the expedition. His narration of this journey was done in a sparkling, humorous style and with scrupulous objectivity. This paper was shortly followed by a keen report on the strata of Bristol, which he contributed to the Geological Society.

Soon after his return to London from Iceland, Bright resumed his medical studies at Guy's Hospital. Later he transferred again to the University of Edinburgh, graduating with the degree of M.D. in 1813. After two terms at Peterhouse in Cambridge he returned to London, but soon afterward he departed again on an extensive tour over the continent, passing many months in Holland, Belgium, Germany, Hungary, Brussels and Vienna. His travels and experiences he recorded in a beautiful quarto volume, illustrated with excellent drawings by his own hand. On his return to London in 1816, he was admitted licentiate of the Royal College of Physicians. He was also made assistant physician to the London Fever Hospital, where he himself nearly died of a severe fever which he acquired while in the pursuit of his duties. In 1823 he was made full physician at Guy's Hospital, and he then began the course of clinical lectures which brought him high recognition as a teacher.

ALTHOUGH Bright had contributed to almost the entire range of medicine he is remembered chiefly for his work on the disease that bears his name. In 1827, Bright was first to determine that dropsy and albuminous urine, among other related pathologic conditions, were connected with the disease of nephritis. It was this discovery that brought him into world-wide prominence. Nephritis has since become the scientific synonym for Bright's disease. Not only was

Bright's work on kidney disease amazing for its completeness of clinical and pathologic observations, minuteness of study and accuracy of deduction, but the fundamental principles which he laid down and which form the basis of present-day knowledge of this disease still stand. Space forbids detailed elucidation as to the causes, complications and nature of nephritis.

Bright's work on this disease, however, represents only a small part of the vast productivity of his achievements. Indeed, his researches and writings cover almost every branch of medical science. To mention only a few of his numerous works, he produced several monographs on abdominal tumors. He wrote on certain diseases of the brain, and he worked out the organic causes of epilepsy. His papers on acute atrophy of the liver and his observations on jaundice are among the first on these subjects. He described the condition of the brain in miasmatic melanemia, condensation of the lung in whooping cough and the echinococci of hydatids of the liver; and he worked out a method of treating fevers associated with irritation of the intestine.

After a lifetime of singular devotion to pathologic researches and unwearied attention to the relief, prevention and cure of human sufferings, he died in London at the age of 69.

HEALTHGRAMS ✣ from Articles in This Issue

¶What is "health"? It is a quality of life and living that renders the person who has it fit to live most and to serve best. *See page 104*

¶Each act of the child should be met with encouragement, perhaps only with an interested expression, but never let it be met with indifference. *See page 148*

¶Variety is not only the spice of life but, in the diet, an important requisite for health. *See page 153*

¶To a trained observer the eyes disclose in the space of a split second the character of an individual, his mood, temperament and emotions. *See page 144*

¶A healthy body promotes a healthy skin; in order to attain this general state of well being, one should have a sufficient amount of normal rest and of outdoor exercise, a well balanced diet and normal elimination. *See page 112*

¶If one half of the college girls are underweight it is almost safe to add that the other half wish they were. *See page 141*

¶Medicine is a living thing, constantly growing, constantly developing and constantly moving forward. *See page 122*

¶The fulfilled dream of automotive transportation for the "man in the street" has become a nightmare of destruction for the man on the highway. *See page 118*

¶Any interest of boys and girls represents tendencies to action, and such tendencies need intelligent guidance if the young people are to grow up healthy in body and mind. *See page 171*

¶It is just as important for a person with a heart ailment to keep busy as it is for a well person—and perhaps more so—for his interests are narrowed. *See page 106*

¶Surveys show that about three fourths of all illnesses affect the digestive tract at some time during their course. *See page 126*

¶The aims of an educational institution for the deaf are triune: to educate the head, the heart and the hand. *See page 130*

¶Obesity carries with it a great many ills in addition to that of favoring the onset of diabetes. *See page 168*

¶The residue of common maladies unconquered today would disappear, or would be greatly reduced, if all persons would take an intelligent interest in their own health and that of the community in which they live and constantly apply the established principles of hygiene, sanitation and health promotion. *See page 156*

¶The one natural source of ultraviolet is ordinary sunlight; the best artificial sources are the carbon arc lamp, the mercury arc lamp and special electric lamps that have in them a mercury arc along with a tungsten filament. *See page 162*

The Dietary Advice of FRANÇOIS MAGENDIE

IT IS not easy to say who was the first great student of nutrition after Lavoisier, but many persons would name François Magendie. He it was who introduced as a cardinal principle of dietetics the cogent advice to "eat a varied diet." Magendie is remembered also for his many contributions to experimental physiology, particularly for his studies on the functions of the anterior and posterior roots of the spinal nerves. He is known as the father of modern pharmacology; his studies on the action of drugs helped lead to the rational use of strychnine, morphine and other compounds in medical practice.

Magendie was only 9 years old when in 1792 his family moved from Bordeaux to Paris. Here he lived through the Reign of Terror, or "la régénération sociale," depending on your point of view. In Paris he studied medicine and served his internship, and here he devoted his life to scientific investigations. Much information regarding the career of François Magendie may be found in the biography which was published by Flourens in 1858.

Magendie's contributions to nutrition are particularly important because he introduced the method of animal experimentation in this field. In 1816 he reported his first series of nutrition experiments. In these he fed animals on single food substances such as sugar, olive oil and other fats and carbohydrates. The animals of course did not live long. Before they succumbed to the faulty diets, several became afflicted with ulcers of the eyes. Some nutrition experts of the present day believe that the eye condition which Magendie described may have been xerophthalmia, which was not shown to be produced by vitamin A deficiency until a hundred years later when Osborne and Mendel made the discovery. From his experiments, Magendie concluded that nitrogenous foods (protein) were needed in the diet.

SOME years later Magendie, as the foremost physiologist of France, was called on to serve as a member of the two commissions on gelatin. This work constitutes a fascinating chapter in the history of nutrition. Briefly it may be mentioned that during the French Revolution the problem of feeding the poor and the army attracted considerable attention. A number of persons suggested the use of soup made from bones. The suggestion was adopted enthusiastically by influential leaders of the nation; these individuals of course did not have to eat the soup. The government in proclamations declared that bones were more nutritious than meat, that a bone was indeed "a tablet of soup formed by nature." Backed by these authoritative declarations the patriotism of the people

reached such extremes that it was considered traitorous to use bones for knife handles or buttons or for any use except feeding the poor.

After the revolution, food became more plentiful, and there was no longer any need to try to live on restricted rations. Years later, however, the question again came up, and this time a number of physicians pointed out that feeding indigent patients on bone soup alone for protracted periods was highly unsatisfactory. Other adverse reports appeared, and as a result the French Academy appointed a commission to test the nutritive value of gelatin on animals. The first report of this commission appeared in 1831, and it was followed by a more elaborate report ten years later. From the evidence which Magendie and his collaborators presented, it may be concluded that gelatin made from bones is a wholesome food, but that one cannot expect to live on this food alone.

OTHER experiments showing that restricted diets are unsatisfactory were reported by Magendie in his textbook on physiology. He found that rabbits or guinea-pigs fed with a single food such as oats, wheat, cabbage or carrots became weak and soon died; but if the different foods were mixed together the animals remained active and thrived. From such studies, Magendie concluded that "la diversité et la multiplicité des alimens est une règle d'hygiène très importante," which may be freely translated: "Variety in the diet is an important aid to health." An alternative translation might be: "Don't become a slave to an unusual diet for too long a time." Oliver Wendell Holmes expressed the thought in the verses entitled, "The Mind's Diet":

> No life worth naming ever comes to good
> If always nourished on the selfsame food;
> The creeping mite may live so if he please,
> And feed on Stilton till he turns to cheese,
> But cool Magendie proves beyond a doubt,
> If mammals try it, that their eyes drop out.

Magendie's hygienic rule is still good advice. This does not mean, of course, that one should complain because one is offered the remnants of the Sunday dinner on Monday night; nor does it mean that one must eat a seven course breakfast or refuse to sit at the supper table unless there are eleven kinds of vegetables from which to choose. But within limits, Magendie's slogan may serve as a useful guide to the selection of a proper diet.

STOP HIGHWAY CARNAGE!

(Continued from page 121)

The success of the first aid stations is going to depend to a great extent on the sympathetic attitude of the public. One funeral director, who had volunteered the use of his cars for accident relief, was dismayed to find that when any of his trained drivers attempted to give assistance at the scene of the accident the public's reaction was so unfavorable that he had to stop the service. However, Admiral Grayson, national chairman of the Red Cross, views with satisfaction the gradual growth of interest and sympathy on the part of the public toward Red Cross safety education projects.

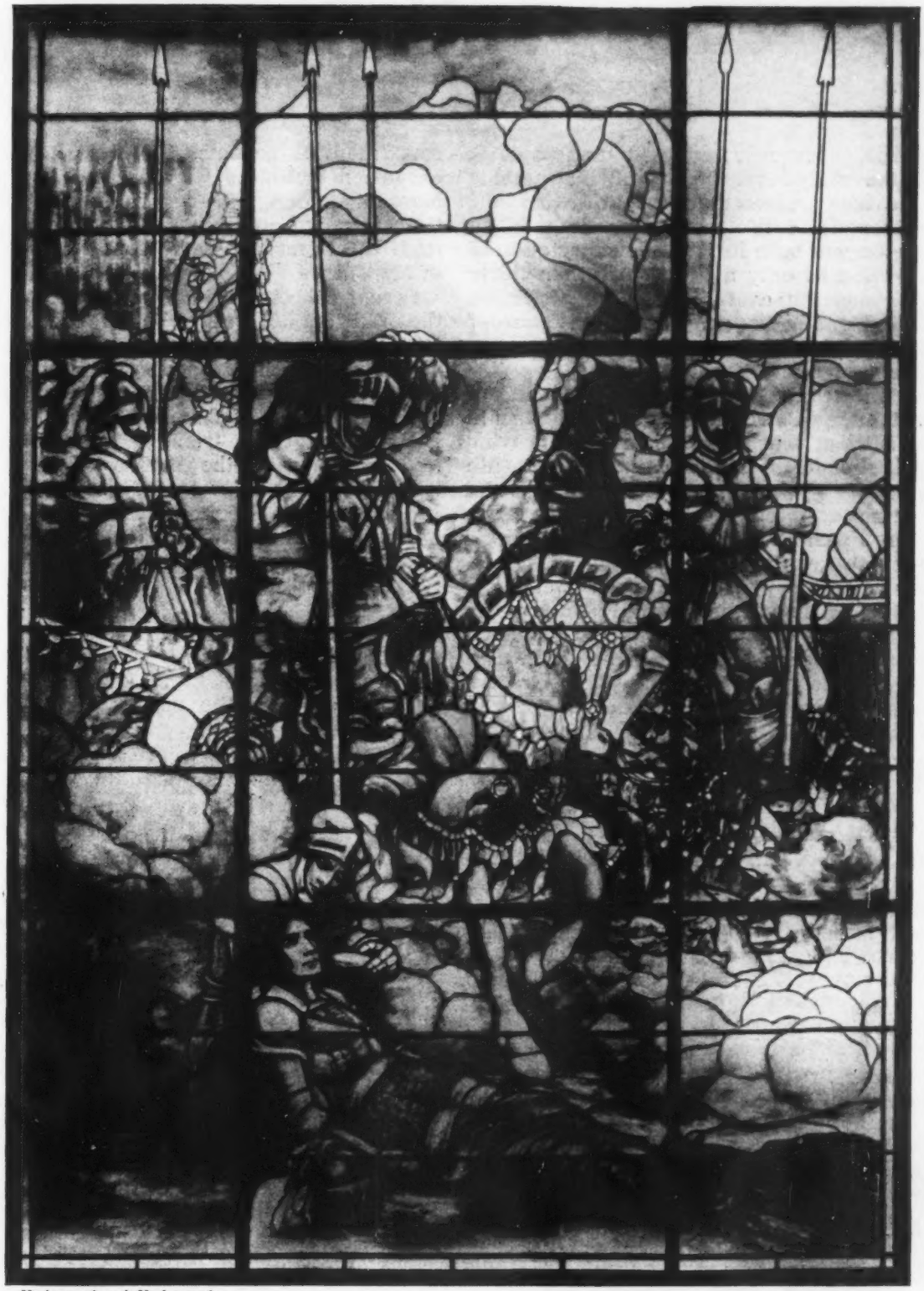
"Since the Red Cross began teaching first aid," he said, "a total of 1,173,494 persons have been granted certificates showing completion of the training. At the same time, 715,208 persons have completed the Red Cross course in life saving. In both of these courses much of the work has been done by volunteer instructors thoroughly schooled in Red Cross methods and procedure."

He declared also that new high records were set during the year 1935 in all phases of the first aid and life saving program sponsored by the Red Cross. During that time, he pointed out, more than 460,000 men, women and young people completed requirements in first aid or life saving and were given certificates for their work, while 20,000 volunteer instructors were used in providing instructions for this large number.

"The Red Cross is prepared, throughout the coming months, to carry this fight against death and injury to every corner of our country," Admiral Grayson continues. "We have been gratified to note the earnest efforts of men, women and children throughout the country who have joined us in a fight against accidental death and injuries in and on highways, farms, city streets and homes. It is obvious, from glancing at the report, that the public is becoming increasingly aware of the need for safety measures and for safety education."

Nor does the new movement lack the support of state and government officials all over the country. They are giving it enthusiastic cooperation as are also the American Medical Association and the American College of Surgeons, organizations which are eager to help in making the program a success.

Frequently, nowadays, when Mr. Motorist is driving out on the open road he may pass a metal sign carrying the Red Cross emblem, or a truck with the same insignia marked on the back. And he will know them as the banners of a crusade! Two thoughts flash into his consciousness. He is reminded as a car driver of his own responsibility toward his fellow man, and he feels a glow of pride and security in the existence of these front line dressing stations in America's war to terminate traffic tragedies.



Underwood and Underwood

THIS COLORFUL STAINED GLASS WINDOW IS THE CENTRAL PANEL AT THE AMERICAN RED CROSS NATIONAL HEADQUARTERS AT WASHINGTON. IT DEPICTS RED CROSS KNIGHTS ASSISTING A FALLEN COMRADE.

Life and Death in George

WHEN George Washington died in 1799, the sixty-seven years of his notable career represented about twice the average length of life of the period. When Washington was born in 1732, the expectation of life at birth was only a little more than thirty years. Today the average duration of life in the United States is sixty years, a gain of approximately 100 per cent in the last two centuries.

These interesting figures do not mean, of course, that most Americans of the eighteenth century died at the age of 30, thus disproving by a full decade the modern maxim that "life begins at 40." Many reached the proverbial three score and ten and even greater ages. Benjamin Franklin, for example, was in his eighty-fourth year when he died in 1790; and our second President, John Adams, lived until July 4, 1826, although he was only three years younger than Washington. Thomas Jefferson expired at the age of 83 on the same day, which happened to be the fiftieth anniversary of the signing of the Declaration of Independence.

The duration of life in George Washington's time *averaged* only a little over thirty years because so many deaths occurred in infancy, childhood and early adult life. Those who survived beyond the age of 40 in this hazardous era had practically as great an opportunity to attain to old age as we have. In Washington's day, germs were unknown, and the modes of spread of diseases were unrecognized, so that smallpox, typhoid, yellow fever, malaria, scarlet fever, tuberculosis, typhus and other maladies took a tremendous toll of lives in childhood and for that matter at all ages.

The medical profession in colonial times was unable to cope with the diseases of the period, not only because of lack of the scientific knowledge that has brought about the modern conquest of these plagues but because there were then so few competent physicians. During the Revolution there are said to have been only 1,200 qualified doctors in the colonies, and of these only 200 possessed the doctorate in medicine. When Washington died in 1799, there were only four medical schools, the first having been organized in Philadelphia in 1765 by Dr. John Morgan. Others had been established at King's College, now Columbia University in New York, in 1767, at Harvard in 1782 and at Dartmouth in 1798.

By

JAMES A. TOBEY

Perhaps the most widespread and terrible of the ministers of death in Washington's time was smallpox, which was endemic throughout the world and which also occurred in waves of epidemics. Smallpox had both aided and retarded the colonization of America, since the disease had removed entire tribes of hostile Indians but had also caused the deaths of innumerable colonists. One of its early victims was the Indian princess Pocahontas, who died of smallpox in England in 1617, leaving a son, Thomas Rolfe, the revered ancestor of many famous Americans.

WHEN George Washington was only 4 years old, Benjamin Franklin lost a son of the same age from smallpox. In 1751, Washington himself was afflicted with the disease while in the Barbados, where he had gone with his consumptive half-brother, Lawrence. When Lawrence succumbed to tuberculosis in the following year, George inherited the magnificent estate at Mount Vernon, since the four children of Lawrence and Anne Fairfax had all died in early life. In the same year, 1752, smallpox ravaged Boston, more than one third of its population of 15,684 being infected. In those days the general death rate in this city exceeded 21 per thousand, in contrast to a rate of about 14 per thousand today.

On at least two occasions, smallpox prevented the conquest of Canada by the English colonists. In 1690, after a series of French and Indian raids on New England the colonists retaliated by sending a land force against Montreal and a naval expedition against Quebec. Smallpox attacked both forces with such violence, however, that the attempts were abandoned, and New France was saved.

Again in 1775, shortly after Washington took command of the Continental Army, an expedition was sent against Quebec, one column under the Irish general Richard Montgomery and another under Col. Benedict Arnold, then a gallant soldier—later a traitor. About half of the 1,100 troops turned back, overwhelmed by disease and the rigors of winter, but the remainder reached Quebec and stormed it. Montgomery was killed and Arnold wounded, but a siege was

Washington's Time

maintained for several months. Smallpox came again to the aid of the French, taking off Gen. John Thomas, the American commander, and many of his soldiers. Because of smallpox the expedition was a failure; but for smallpox, Canada might now be part of the United States.

During the Revolutionary War, smallpox caused great havoc in the American and British forces. So serious was this disease that one of the four military hospitals established by the Congress of Massachusetts Bay in 1775 was set aside exclusively for smallpox cases. Soon after Washington assumed command he realized the need for adequate medical care of his soldiers, and he appointed Dr. Benjamin Church of Boston as the first director general of the Hospital Department of the Army. Church was replaced within a few months by Dr. John Morgan of Philadelphia, who served until 1777, when he was succeeded by Dr. William Shippen.

AT THIS time the only known preventive of smallpox was inoculation with the disease, a process that had been introduced in England in 1717 by Lady Mary Wortley Montagu. Although this procedure had been espoused by the redoubtable Cotton Mather in Boston as early as 1721, it had not made much progress in the colonies. Washington insisted, however, that his troops be generally inoculated, and he set an example by having the virus given to his wife. Catherine the Great in Russia was another

advocate of smallpox inoculation, taking a mild case of the disease by this means in 1768.

Before Washington died, a new and more effective preventive of smallpox had been discovered by Dr. Edward Jenner in England. In 1796, Dr. Jenner demonstrated that vaccination with cowpox conferred an immunity against the much more serious smallpox. After 1798, when his observations were published, vaccination was put to the practical test in thousands of cases, and its success was quickly proved. Among those who championed this method was President Jefferson in America, who had himself vaccinated in 1806.

Because of universal vaccination, smallpox has long since ceased to be a menace to human health. It will never be a common pestilence again unless the people are lulled by a false sense of security and proceed to neglect this infallible method of prevention. In Washington's time, smallpox caused the death of the king of France, Louis XV, who succumbed to this disease in 1774. The German empress, Maria Theresa, wife of Francis I, also had the disease in the middle of the eighteenth century, but she recovered. Queen Anne of England had it, and Mary, William's queen, died of this disease. Frederick the Great likewise suffered from this ailment as well as from malaria, dysentery and venereal disease.

Another fearful plague of Washington's time was yellow fever, which visited America on thirty-five occasions between 1702 and 1800. One of the worst of these visitations was in 1793 when Washington was President. In Philadelphia, then the seat of government, one out of ten persons died of yellow fever. The President escaped, but his celebrated Secretary of the Treasury, Alexander Hamilton, was among the afflicted, although he recovered. Dr. Benjamin Rush, one of the leading physicians of the period, also had a mild case; but the first husband of the future Mrs. James Madison, wife of our fourth President, was not so fortunate.

The last outbreak of yellow fever in the United States occurred in New Orleans in 1905. Since 1900, when Major Walter Reed and his brave colleagues discovered that yellow fever was spread by the bite of certain mosquitoes, this disease has been conquered by man, as in Havana and Panama, where Colonel Gorgas put to practical application the knowledge made available by Reed. Yellow fever is now encountered in only a few parts of the world, in Africa and South America.

Smallpox and yellow fever may have been the worst, but they were not the only pestilences rife in the time of Washington. Malaria, from which Washington suffered, was constantly present, and there were epidemics of scarlet fever, influenza and other diseases. In 1789, for instance, Washington came down with a severe respiratory infection while visiting Boston. An epidemic at this time was known as Washington influenza. In the same year the President's mother, Mary, died of cancer, then as now a common ailment among persons past middle age.

Another respiratory disease, tuberculosis, was widely prevalent in Washington's time, causing four or five times the mortality that is recorded for this disease today. A few years after the death of his half-brother, Lawrence, Washington showed symptoms of a pulmonary disorder, although the disease never progressed. One of his nephews, George Augustine, died of tuberculosis, and the President's stepdaughter, Martha Custis, also succumbed to it. Among Washington's famous European contemporaries, Louis XVII of France, Voltaire and Robert Burns are numbered in the long list of the victims of tuberculosis.

Although modern preventive medicine did not begin until the time of Louis Pasteur in the nineteenth century, some progress in public health was made in Washington's day. In 1794, for example, the first local board of health in the country was created in Philadelphia, to be followed by one established in New York in 1796 and Boston in 1799, in the latter instance with Paul Revere as its president. In 1798, a marine hospital service was set up in the federal government as the forerunner of our present United States Public Health Service.

The first life table in America was compiled by Rev. Edward Wigglesworth in Massachusetts in 1789. His data showed an average length of life of only twenty-eight years, although corrections for actual population brought the figure to thirty-five years. Earlier in the century, Captain Cook and Dr. James Lind had shown that scurvy could be prevented by a proper diet, and Sir John Pringle had written a noteworthy volume on military hygiene. John Howard had cleaned up English prisons, only to die himself in 1790 of jail fever, or typhus, which was shown many years later to be spread by the bites of infected lice.

When we compare sanitary conditions and the prevalence of disease in Washington's time with the more or less satisfactory public hygiene of today, we can be grateful that we live in a modern sanitary era. Disease is still with us, and much yet remains to be done in improving general health and physical efficiency, but the great pestilences that plagued our colonial ancestors have disappeared from the American scene. The residue of common maladies of today would also disappear, or would be greatly reduced, if all persons would take an intelligent interest in their own health and that of the community in which they live and constantly apply the established principles of hygiene, sanitation and health promotion.

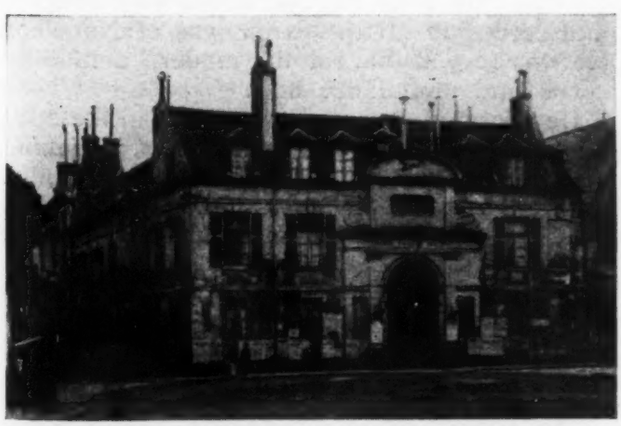
The Doctor Abroad— FRANCE Part II

The Fifth of a Travel Series on Points of Historical Medical Interest

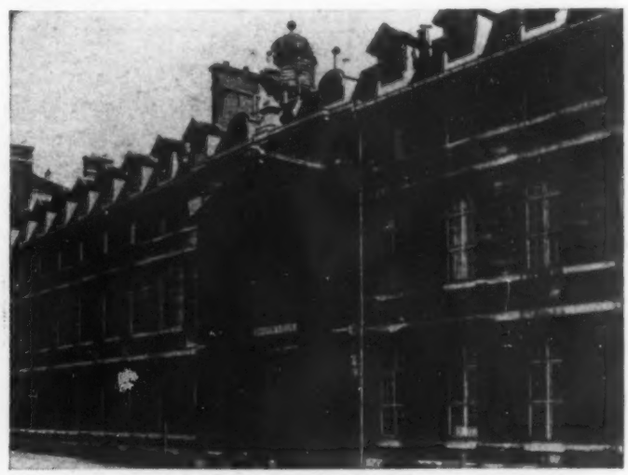
By LOGAN CLENDENING

PARIS recalls many memories to the historically minded medical traveler. In medieval Paris its great university flourished, one of its medical students being François Villon. As you pass the façade of the Louvre you may turn your eyes across the street to the old church of St. Germain-l'Auxerrois and recall the legend that its bells gave the signal for the beginning of the massacre of St. Bartholomew, at 2 a. m., Aug. 24, 1572. There was one Huguenot, however, whom the king considered too valuable to risk; so he brought him to Louvre for safekeeping during that bloody interlude. He was a humble surgeon, Master Ambroise Paré. In that church was married Molière, the great satirist of the medical profession and exposer of quirks of patients. You may wish to read again "L'Amour Médecin," with its caricatures of the court physicians De Fougerais, Esprit and Guénait; and "Le Médecin Malgré Lui" and "Malade Imaginaire." Perhaps you can obtain a copy of Dr. A. M. Brown's book, "Molière and His Medical Associations," in which you will find a detailed account of the medical practices of the time.

Indeed, in France, the traveler who is visiting only the sights of strictly medical interest is, more than anywhere else, constantly reminded of the literature of the land. At Montpellier and again at Chinon the physician-humanist Rabelais has been brought to mind. In Bordeaux, if one wishes to go there, there rises the figure of Montaigne, and James Spottiswoode Taylor's delightful little book, "Montaigne and Medicine," will serve as a guide to the medical associations. At Tours also one could not help but see the birthplace of Balzac. And here in Paris one is reminded of Villon and Molière. The medical pilgrimage can serve as a crystallization point for the study of French literature.



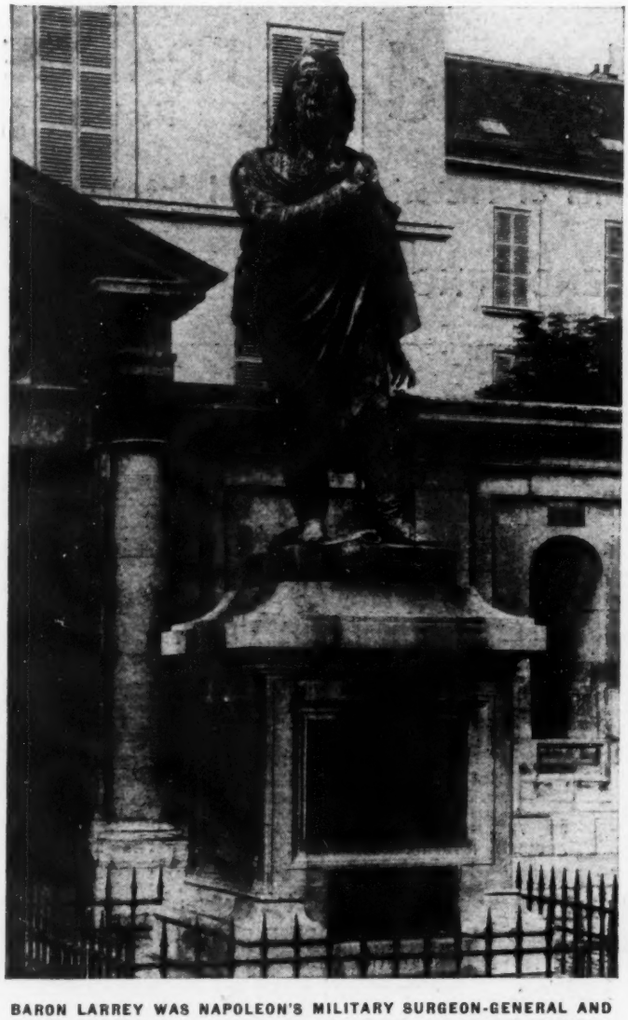
THE HOPITAL DE LA PITIE IS ONE OF HISTORICAL INTEREST.



AT THE HOPITAL DE LA SALPETRIERE, PINEL FIRST APPLIED HUMANE METHODS IN TREATING THE INSANE

THE Hôtel-Dieu probably has the longest record of continuous service of any hospital in the world. It stands hard by Notre-Dame and used to spread over the entire Place du Paris-Notre-Dame to where the statue of Charlemagne stands.

The old part of the hospital is represented by the little church of St. Julien-le-Pauvre, used from 1655 as the chapel of the Hôtel-Dieu; it is on the left bank, across the river from the Ile de la Cité. The present hospital is on the north side of the cathedral now, and its various parts extend over the river on the right bank. It is said to have been founded in the seventh century by Saint Landry. It was operating in 1327 when Charles IV decreed that two sworn surgeons of the Chatelet should treat the sick at the Hôtel-Dieu and that medical students should be used to dress wounds and perform other duties. Old Ambroise Paré is proud to record the fact that he was in residence there as a student. This founder of modern surgery quitted the hospital in 1536. From then on, a continuous tradition, including during the nineteenth century the great Baron Dupuytren and



BARON LARREY WAS NAPOLEON'S MILITARY SURGEON-GENERAL AND SPONSORED THE FORERUNNER OF OUR MODERN AMBULANCE CORPS.

Magendie, has marked the eminence of its surgical and medical work.

There are many other famous hospitals in Paris. An interesting medical walk is to leave Napoleon's tomb at the Hôtel des Invalides and, turning your back directly on it, walk down the Avenue de Breteuil. Soon you enter the Place de Breteuil, in the center of which is the monument to Pasteur erected by national subscription in 1904. Passing this, you reach the Rue de Sèvres and, turning to your left, you are opposite the Hôpital Necker. Here it was that Laënnec was appointed in 1816, and here his work led him to the invention of the stethoscope. In later days, Trousseau, the idol of our grandfathers, presented those clinical lectures which for finish and suspense have never been equaled.

A little further down the street is the Hôpital Laënnec, named after the great master. It was formerly a home for incurables, founded by Cardinal de la Rochefoucauld in 1635, and has a courtyard and chapel interesting on their own account.

Among other hospitals of historical interest is the Hôpital de la Charité, 47, Rue Jacob, which, although the guidebooks do not mention it, is associated with the names of Velpeau, Cruveilhier, Andral and Bouillard. Near the Jardin des Plantes is the Hôpital de la Pitié where were seen Lisfranc as surgeon, in the great days, and Piorry, who introduced the present intermediate method of percussion in medicine. Not far away is the famous Hôpital de la Salpêtrière, facing the monument of Pinel, the alienist. Here he first applied humane methods to the treatment of the insane, and here later Charcot conducted that clinic in nervous diseases which became the mecca of all special students in that department. The buildings are now used for aged and insane women. The Hôpital Beaujon is located in the Rue du Faubourg Saint-Honoré near the Boulevard Haussmann and the Arc de Triomphe. Founded in 1784, it was, for a time, the hospital of the great Louis, where Marjolin was surgeon. Before he went to the Necker, Laënnec practiced here. Still farther east, in the Rue Bichat, is the Hôpital Saint-Louis, which has specialized in skin diseases and is associated with the names of Baron Alibert, Lugol and Cazenave. In its gardens and courtyards Oliver Wendell Holmes walked when a student in Paris.

But the hub of all was another institution, housed in another building, l'Ecole de Médecine. Turn off the Boulevard Saint-Germain, through the Rue de l'Ecole de Médecine, and you will stand before the fine eighteenth century classic façade. The statue in the center of the courtyard is that of Bichat.

Entering the courtyard and turning to your left, you come to a long corridor containing statues of famous French physicians and surgeons, mostly of the nineteenth century: Dupuytren, Velpeau, Lisfranc, Roux, Bouillard, Laënnec, Ricord, Louis and many lesser lights. Across the street are the laboratory buildings which ramble around and through a charming park with shrubbery.

In the courtyard of the old military hospital at Val-de-Grace, behind the Luxembourg, 227 Rue Saint-Jacques, is a statue of Baron Larrey. He was one of the greatest of military surgeons and served in all the campaigns of Napoleon. He was responsible for the modern ambulance corps and ambulance unit.

He operated over and over again in the midst of the confusion of the great battles, sometimes standing knee-deep in snowy water, amputating legs and arms on the battlefield. His contention was that the amputation should be done immediately because the limb was numb and the shock would not be so great as later, a contention entirely at variance with previous doctrine, but his statistics proved the correctness of his ideas.

He was captured at Waterloo and sentenced to be shot but fortunately was brought into the

presence of Blucher, who recognized him and remembered that he had saved the life of Blucher's son. He was, therefore, returned to Paris.

The statue in the courtyard of the Val-de-Grace shows him with a scroll, on which were written the words which his great master spoke of him in his will, "C'est l'homme le plus vertueux que j'ai connu." ("He is the most honest man that I have ever known.")

The reminiscences of Oliver Wendell Holmes bring to life most of the great clinicians of Paris at this date.

"The short, square, substantial man with iron-gray hair, ruddy face, and white apron is Baron Larrey, Napoleon's favorite surgeon, the most honest man he ever saw,—it is reputed that he called him. To go round the Hôtel des Invalides with Larrey was to live over the campaigns of Napoleon, to look on the sun of Austerlitz, to hear the cannons of Marengo, to struggle through the icy waters of the Beresina, to shiver in the snows of the Russian retreat, and to gaze through the battle smoke upon the last charge of the red lancers on the redder field of Waterloo. Larrey was still strong and sturdy as I saw him, and few portraits remain printed in livelier colors on the tablet of my memory.

"Leave the little group of students which gathers about Larrey beneath the gilded dome of the Invalides and follow me to the Hôtel Dieu, where rules and reigns the master-surgeon of his day, at least so far as Paris and France are concerned,—the illustrious Baron Dupuytren. No man disputed his reign,—some envied his supremacy. Lisfranc shrugged his shoulders as he spoke of 'ce grand homme de l'autre côté de la rivière,' that great man on the other side of the river. . . .

"As for Lisfranc, I can say little more of him than that he was a great drawer of blood and hewer of members. I remember his ordering a wholesale bleeding of his patients, right and left, whatever might be the matter with them, one morning when a phlebotomizing fit was on him. I recollect his regretting the splendid guardsmen of the old Empire,—for what? because they had such magnificent thighs to amputate. I got along about as far as that with him, when I ceased to be a follower of M. Lisfranc.

"THE name of Velpeau must have reached many of you, for he died in 1867, and his many works made his name widely known. Coming to Paris in wooden shoes, starving, almost, at first, he raised himself to great eminence as a surgeon and as an author, ... A good sound head over a pair of wooden shoes is a great deal better than a wooden head belonging to an owner who cases his feet in calf-skin, but a good brain is not enough without a stout heart to fill

THIS STATUE OF PHILIPPE PINEL, THE ALIENIST, STANDS IN THE COURTYARD OF THE HOPITAL DE LA SALPETRIERE.

the four great conduits which carry at once fuel and fire to that mightiest of engines.

"How many of you who are before me are familiarly acquainted with the name of Broussais, or even with that of Andral? Both were lecturing at the Ecole de Médecine, and I often heard them. Broussais was in those days like an old volcano, which has pretty nearly used up its fire and brimstone, but is still boiling and bubbling in its interior, and now and then sends up a spirt of lava and a volley of pebbles. His theories of gastro-enteritis, of irritation and inflammation as the cause of disease, and the practice which sprang from them, ran over the fields of medicine for a time like flame over the grass of the prairies. The way in which that knotty-featured, savage old man would bring out the word irritation—with rattling and rolling reduplication of the resonant letter *r*—might have taught a lesson in articulation to Salvini. But Broussais's theory was languishing and well-nigh become obsolete, and this, no doubt, added vehemence to his defence of his cherished dogmas."

[NOTE.—In the March issue, Dr. Clendening will continue his description of points of historical medical interest in France.]

ULTRAVIOLET— The Invisible Light

WHAT IS ultraviolet light? In so many discussions of health, medicine and diet, mention is made of the important part played by ultraviolet light. What is this mysterious light that seems to be capable of doing so many wonderful things? What is it? Where does it come from? What are its uses?

Ultraviolet light, as its name implies, is a form of radiation. It is composed of violet rays that are too short in wavelength to be visible to the human eye. Just as the visible violet light is shorter in wavelength than is the visible red light, so is the invisible ultraviolet still shorter in wavelength than the visible violet.

According to the electromagnetic wave theory, the ultraviolet light travels in space in the form of an electromagnetic wave.

There are other electromagnetic waves. According to their wavelengths, beginning with the longest ones, they are: radio waves, infra-red light, ordinary visible light, ultraviolet light, the familiar x-rays, the so-called gamma rays given out by radioactive substances such as radium, and possibly the more recently discovered cosmic rays, which seem to come to the earth from some far distant source out in interstellar space.

All these are electromagnetic waves, exactly identical in their basic nature. They differ from one another only in wavelength and frequency. To be sure, they are usually produced by dissimilar sources.

We are all accustomed to thinking in terms of radio waves. Let us consider a radio station which broadcasts on a frequency of 1,500 kilocycles. The radio waves sent out by this station have a wavelength of 200 meters. This is equal to about 656 feet, or almost one-eighth mile. The ultraviolet light that is most useful for medical purposes has a wavelength of only about one-millionth foot. This means that the wavelength of our radio station is 656 million times as great as the wavelength of ultraviolet light.

ULTRAVIOLET light, then, includes invisible rays of extremely short wavelength.

The one *natural* source of ultraviolet is ordinary sunlight. The best *artificial* sources are the carbon arc lamp, the mercury arc lamp and special electric lamps that have in them a mercury arc along with a tungsten filament.

The energy that comes to the earth from the sun is not all visible light. Much of it is in the form of long invisible heat waves, called infra-red. The remainder is in the form of the short invisible ultraviolet waves.

Before man became so highly civilized and began to live indoors he obtained directly from the sun's rays all the ultraviolet that he needed for normal health and growth. Primitive man, living outdoors, was swarthy, rugged and healthy. When, in the course of becoming more highly civilized, man began to live indoors, depending wholly on artificial light, he became pale in color, delicate in health and easily susceptible to certain diseases. He made the mistake of thinking that light was needed for one purpose only, to enable him to see. He did not know that he needed the invisible ultraviolet to enable him to maintain his health and growth. He did not even know that there was such a thing as ultraviolet. Still later, when windows made of glass were used to let the sunlight in, the windows failed to let the ultraviolet through. Ordinary window glass, which is perfectly transparent to visible light, absorbs all the health-giving ultraviolet wavelengths because they are too short to get through.

THE carbon arc lamp was the first artificial source of ultraviolet. Most of us are fairly familiar with the carbon arc lamp. It consists of two carbon rods or electrodes placed in an electric circuit. When these two carbon electrodes are touched together, the current begins to flow. The electrodes are then separated a short distance from each other. The current continues to stream across from one electrode to the other in the form of a white hot flame. This flame gives out ultraviolet in addition, of course, to visible light and the infra-red waves. Such an arc light is especially rich in ultraviolet wavelengths.

For several years now, specially prepared carbons have been made that are much stronger than pure carbon in the amount of ultraviolet which they produce. These carbons have a central core consisting of various substances such as iron, nickel, aluminum, silicon, strontium and cobalt.

The mercury arc also provides ultraviolet. White hot mercury vapor carries the current from one electrode to the other. The electrodes and mercury vapor are enclosed in a quartz glass container similar to an ordinary electric light bulb. The container is made of quartz glass because ordinary glass would not let the ultraviolet light pass through.

Necessary to Health

By CECIL W. BYERS

The special electric lamp, which combines a mercury arc with a tungsten filament, is a development of more recent years.

Briefly, then, ultraviolet may be derived from natural sunlight and various kinds of electrically operated sources.

THE uses made of ultraviolet light may be enumerated as follows:

1. It is used for many experimental purposes in scientific laboratories.

2. It is useful in photography, not only in special kinds of photography such as those used in crime detection but also in ordinary photography. The chemicals used on the ordinary photographic film or plate are highly sensitive to ultraviolet light as well as to the violet and blue of the visible spectrum. They respond only feebly to the red end of the visible spectrum. Thus, ultraviolet light has always played an important part in the making of ordinary photographs. Pictures can now be taken in the *dark* by the expedient of using ultraviolet light.

Just for the novelty of the exhibition, decorations have been so painted on the walls of a room at the Franklin Institute in Philadelphia that when the walls are photographed under ordinary visible light the decorations do not show, but when they are photographed using ultraviolet the decorations are plainly visible in all their beauty.

As an aid in the solution of criminal cases, objects are often photographed with ultraviolet. In such photographs, many things are visible that would fail to show in a photograph made by ordinary light.

Similarly, in the restoration of valuable paintings and other works of art that have faded in color and become worn with age, photography by ultraviolet light is a valuable aid in the restoration.

3. The ultraviolet waves are used in a large number of industrial processes.

In the textile industry they are used as the bleaching agent in the production of the best quality of linen. In the petroleum industry they are involved in one stage of the manufacture of lubricating oils. In the leather industry they enter the final step in the manufacture of patent leather.

Because of its powerful action in killing germs, ultraviolet finds many uses in industry. It is used for the sterilization of water and in the manufacture of various beverages.

In the food industry, exposure to ultraviolet increases the vitamin D content of such foods as milk, butter and cereals.

Many pharmaceutic preparations are subjected to ultraviolet radiation in order to secure certain desired properties.

4. Ultraviolet is used extensively in the practice of medicine.

Tuberculosis of the skin is treated by exposure to ultraviolet. In some climates sufficient exposure can be obtained from sunlight. A desirable climate for this purpose is one in which there are long hours of sunshine, a clear atmosphere, high altitude and little if any slant to the sun's rays. A great deal of ultraviolet light is absorbed by the air, hence the advantage of high altitude and vertical rays rather than slanting ones. Various other skin diseases are also subjected to treatment by ultraviolet light.

These rays do not penetrate far into human flesh. Hence their action is limited almost wholly to a surface or skin effect.

Rickets results from lack of vitamin D. This familiar disease is characterized by softening of the bones. Deformities result, such as crooked legs, twisted arms and sunken or protruding chest bones. Proper development of the teeth also requires an adequate supply of vitamin D together with a sufficient amount of calcium and phosphorus in the diet.

THE best *natural* source of vitamin D is cod liver oil. But even cod liver oil, which is nature's masterpiece as far as vitamin D content is concerned, can have its medical effectiveness increased many times by ultraviolet light.

We ought all to make sure that we get our share of ultraviolet. The farther north we live, the more careful should we be in this matter. With the sun's rays falling on us at a great slant, being forced by winter weather to spend a great deal of time indoors, using artificial light that is weak in ultraviolet waves, using window glass that will not transmit the sun's ultraviolet rays —we would do well to give the subject considerable thought.

We may use sunrooms equipped with glass that transmits the ultraviolet. Such glass is more expensive than ordinary window glass. But a sunroom equipped with ordinary glass fails almost completely to serve its purpose. We should also spend as much time as possible outdoors. Then, too, we should add to our regular diet some of those foods that are strong in vitamin D.

The Bookworm Is Beaten by a Paper Bag

By PHILIP JARED

THE GENERAL THEME OF JUDITH'S ACT INVOLVED A POOR DOWNTRODDEN GIRL WHO HAD A POWERFULLY SELFISH INTEREST IN A TROUBLED WIGHT—TROUBLED BY HER STERN PARENT'S EDICT OF PROMPT BANISHMENT.

I HAVE NEVER meant to imply that everything which happened in the Answith family was annoyance, near tragedy or sickness. I am merely the reporter of interesting health lessons which were enacted under my own nose, so to speak. Each member of that family was a personality in the real sense of the word, and real personalities have a way of having experiences. It would be criminal negligence, almost, not to give the world some of them to think about.

Junior Answith, intellectually snooty around home and derisively called Old Sock, was by no means so wise as Socrates. Neither was Judith truly a Dumb Cluck, nor Frederick Quiller always an Old Teaser, nor Claribelle continuously a Cry-Baby. All of them had their moments of being just what the world would expect of them, age considered. All of them had curiosity and imagination, useful traits for any one who wants to get ahead of the common herd.

Nothing delighted Old Sock more than to be able to "astonish the natives" at home with some bit of unexpected and fundamental knowledge about the interesting universe he condescended to inhabit. The world was his oyster, and he felt perfectly free to shuck it.

I do not recall what brought it about, but one evening while Doctor and Mrs. Answith were out, Old Sock quit being a bookworm to let Judith show him her most recent act.

"All right," he said, "but I can't understand why you pick me out for torture."

"I want to practice—rehearse, I mean—and if I can stand your silly criticism I can take anything," was Judith's surprising explanation.

"Uh—trying to get tough, eh?" Old Sock was not so pleased by her frankness. "All right, clown, do your lines. I'll throw the eggs and tomatoes. . . . Humph!"

IT SEEMED that the general theme of Judith's act involved a poor downtrodden gal who had a powerfully selfish interest in a troubled wight —troubled by her stern parent's edict of banishment. Obviously, whatever the wight's sins or failures were, they did not rile the same emotion in her palpitating bosom which causes papa's face to assume the complexion of an irate turkey gobbler's. The scene which she wished to do in perfection involved these three characters. She tried it for Old Sock, but her verve suffered because she had to explain instead of having her cues shot at her. Then I was hauled out of my basement quarters and pressed into reading the lines of the poor persecuted wight. Old Sock became the bad papa. I paraphrase the gist of the scene:

PAPA: This scalawag's no good. Besides, you'll get over this puppy love.

DAUGHTER *('emoting' hysterically):* I can't live without him. . . . I won't! . . . I *love* him!

WIGHT: Mr. Picklefork, for shame! Can't you see that—

PAPA *(as barked by Old Sock):* Out of my house and home, you insignificant scum of humanity. Get out and never try to see my datter agin. Out-t!

WIGHT *(with no end to his distress):* But, Mr. Picklefork—

DAUGHTER *(grabbing the wight—me—in her arms and rubbing the powder off her nose on his throbbing vest):* Oswald, dear Oswald, I'm yours! Take me with you to the end of the earth. *(Sobs, and oh, such pitiful sobs!)*

PAPA *(who is supposed to realize he is licked):* Daughter!

DAUGHTER *(continuing to sob, wild sobs, heartbroken sobs, which were supposed to cease because she was all sobbed out):* Oh-oh—Os-wuld! !

WIGHT *(still distressed):* Mr. Picklefork, you gotta listen. Honest, I love her!

PAPA *(amazed):* Wassat?

DAUGHTER *(wailing some more):* Os-wuld, take me away from all this!

PAPA *(flabbergasted):* You-you ain't just after my money!? . . .

And so the scene ended with sobs, heaving sighs and great gasps. I was glad it was over, for I was the wight who was wondering just what the Answiths would have thought and said, had they witnessed the scene of their daughter in the arms of the family handy-man. I heaved a sigh of relief myself.

"Nerts and mellerdrammer!" snorted Old Sock. "You'll—"

"Oh-h!!!" Judith weaving dizzily on her feet. "I can't—get—my breath." She was breathing like a winded race horse.

SHE held on to my arm, and I helped her over to the davenport. She walked with a curious stiffness, up on her toes.

"The act's over," snapped Old Sock. "Snap out of it."

"Something's wrong with her, Junior," I babbled as I straightened her out. "Look how she's breathing. See how stiff she is."

"Aw, she's just pulling a stage conniption fit on us. Let her alone."

"N-uh-no," puffed Judith, hardly able to speak.

"Say, you Dumb Cluck," blustered Old Sock, trying to scare her back to normal. "Stop this foolishness. Enough is enough."

Judith's breath came sighing through her teeth. Her arms were drawn up tightly across her chest, and her legs were stiffened out like pokers. I tried to rub one of her wrists, and I could not get her arm straightened out without making her cry out with pain. Her thumbs were tucked into her palms, and her fingers were bent over them stiffly, I mean, bent at right angles from the knuckles. Her ashy paleness frightened me out of my wits.

"Call the doctor right away!"

"Where are they?" Old Sock was scared out of his wits too.

"I—I can't remember," I stuttered.

"Who else can we call?"

"We should get your father," I insisted.

"Muh-muh-Millers," sighed Judith barely audibly.

"Call them," said Old Sock. "I'll try to think of something to do while they are coming."

When I came back from the phone I was feeling a little better myself.

OLD SOCK was trying to count Judith's pulse, and he shook his head importantly. Then he must have thought something was wrong with her heart. He took the pillows from under her head and nagged tremulously at her to get her to breathe deeper. He admitted afterward that he had a notion that if he could make her exert her will enough to keep her respiration going, she might live until his father could save her. I ran out to the kitchen and drew some cold water to wet some cloths for her forehead. When I put them on I noticed that her hands were cold and clammy. I went back for hot water that time. I was trying to warm her hands with it when Dr. and Mrs. Answith came home. What a relief!

Old Sock started to tell what had happened.

"She got this way all of a sudden," he said.

"What happened before that?" asked Dr. Answith anxiously.

"Nothing at all. We were helping her rehearse."

"Are you sure that was all?" insisted Dr. Answith as he examined Judith.

"Absolutely! Isn't that right, Philip?"

I agreed that it was. I was hoping Dr. Answith was not hearing anything bad with his stethoscope. Judith's condition looked serious to me.

"Humph!" grunted Dr. Answith softly. "Paper bag," he said to Mrs. Answith cryptically.

Mrs. Answith had been changing the wet cloths. She went into the kitchen and quickly returned with a "five pound" paper bag. Dr. Answith opened it and turned the edges back to suit himself.

"I'm going to hold this bag over your nose and mouth, Judith," he explained, but she must have thought it would make her feel worse and tried to turn her face away.

"C-can't—br-reathe—now!"

I could not see much sense to smothering a girl who was having plenty of trouble with her breathing. Old Sock had tried to make her breathe more, and now Dr. Answith was planning to suffocate her. I had a quick picture of myself testifying before a coroner's jury, and I did not want to do that. I glanced at Mrs. Answith, but her face was a pale mask.

"Judith," her father said sternly, "do as I say now. Breathe into this bag, and you'll soon be better." With that he clapped the bag over her face, and Mrs. Answith helped him.

"Whuh!" sighed Judith a time or two.

I noticed that the paper bag did not go in and out much as she breathed. I knew she should have been able to have almost inflated it with one or two big breaths. She was not really breathing deeply but sort of taking in short breaths and blowing them out rather long, if I make myself clear.

Mrs. Answith had hardly said a word all this time. I suppose she got that from her experience as a trained nurse, or maybe she knew what it was all about anyway. Dr. Answith was saying little consoling things to Judith. Pretty soon—about an hour it seemed—Mrs. Answith said her pulse was stronger and the spasm was relaxing. She began to straighten Judith's fingers, but they would not remain straight. It might really have been two minutes before she could get Judith's thumbs out of the palms of her hands. Dr. Answith gave her a fresh bagful of air, and after a minute or two longer, her arms began to fall away from her chest. She could talk fairly well then.

"Has the numbness left your lips and body yet?" the doctor asked.

"Almost," said Judith's muffled voice.

"What's the matter with her, Dad?" Old Sock had his nerve and curiosity back. "Hysteria?" he asked unkindly. He was becoming normal almost as rapidly as Judith.

JUDITH flexed her fingers stiffly and then shook her fist at him.

"Hysterics may become this way," replied his father, shaking Judith's head a little. "However, alkalosis isn't hysteria."

"What's that?" Old Sock was as avidly curious as Old Teaser could be.

"Too little acid in the blood, the opposite of acidosis."

"I'd guess that myself," said Old Sock as if he believed his father was kidding him. "But how did she get that way?"

"That's what you unobservant people haven't told me. You said, 'She just got that way,' but I know better. Judith, sit up and let's see if you are dizzy."

"Just a little."

"Then stay up and hold this bag yourself until you feel all right. . . . I've virtually raised people from the dead with this little trick. . . . That is, the patient and relatives said it looked that way. . . . Trick of the trade, Sock."

"I certainly thought I was dying," said the Dumb Cluck, taking her nose out of the bag a moment. "Whew! How much longer, Daddy?"

"Get up and walk. If you feel all right, you are."

Judith got up and took a few experimental steps. Then she did a short tap dance just to prove that her morale was all right.

"Now," said Dr. Answith firmly, "I want to know exactly what happened to cause Judith's alkalosis spasms."

I knew he would get to the bottom of the mystery, and I knew I would not feel so comfortable during the inquisition. In the interest of a good alibi for myself I took the lead.

"We read Judith's cues while she put on an emotional scene. She was supposed to do a lot of crying."

"She must have done a lot of heavy emoting?"

"I'll say she did," agreed Old Sock. "She bellered in the mellerdrammer. She huffed, and she puffed."

"The script says 'sobs wildly,'" Judith objected sulkily. "I tried to do it that way like —like any good actress would."

"It didn't say for you to scare us out of a year's growth," grouched Old Sock, trying to figure out the chemistry of the Dumb Cluck's dramatic finale. "What was the matter with her —too much oxygen?"

"YOU have heard of 'sand hogs' and caisson workers who work under increased air pressure, haven't you?" Old Sock had. "They don't have spells like this one from having more oxygen to breathe than nature intended, do they?"

"Not so far as I've read. . . . I saw a movie once . . . they have the 'bends' if they come out too quickly."

"That," explained the doctor, "is because they have nitrogen bubbles released in their blood. It may cripple or kill them. . . . You learned Henry's law in chemistry, didn't you?"

"The greater the pressure, the more gas is dissolved in a liquid," answered Old Sock.

"And release the pressure quickly . . .?"

"Gas bubbles come out, yes," Old Sock agreed. "But you kept oxygen away from Judith!"

"I know I did," reasoned Dr. Answith. "I was just leading up to explaining that too much oxygen did not cause the spasms—or too much nitrogen. Do you understand that the nitrogen of the air had nothing to do with it?"

"Sure, there was no increased nitrogen pressure from the air to force too much into her blood, but she could get too much oxygen by breathing too hard. The hemoglobin in her red blood cells would take it up from the lungs, wouldn't it?"

"Quite so," his father agreed patiently, "but what does that oxygen displace in the red blood cells?"

"Um-m, carbon dioxide, of course." He was proud to know the answers. "Then was it carbon dioxide bubbles in her blood like foam from soda pop?"

"Oh, no! Don't forget, the air pressure had not changed during the *act*."

"Then I don't know what the cause was."

"Yes you do, if you'll put your facts together. What is formed when carbon dioxide is dissolved in water?"

"Carbonic acid . . . but you said the Dumb Cluck's trouble was alkalosis!"

"And didn't you suggest too much oxygen displaced too much carbon dioxide from the hemoglobin, eh?"

"So that makes the blood too alkaline, does it?" said Old Sock, a grin beginning to spread over his face.

"Essentially so, Junior. . . . The blood is a wonderfully balanced complex solution of acid and alkaline substances. Nature has adjusted it so that it normally remains just a little alkaline. When anything makes it too alkaline, spasms like Judith's occur. . . . There is a lot of 'patent medicine' gush about acidosis. The scientists discovered it, but the medicine venders capitalize on the name and not the condition. They have almost scared the people into thinking 'acid' is the same as 'acidosis.' "

"And you made her rebreathe her own carbon dioxide . . . and made her blood more acid? I understand."

"If Judith and the rest of you had not been so frightened she could have brought herself out of her alkalosis by holding her breath, not breathing any more than she absolutely had to breathe. Slower but to the same end. . . . Nervous, worried and apprehensive people get various degrees of alkalosis by hyperventilation—overbreathing. Usually they have the idea something is wrong with their hearts or that they can't breathe and fill out their lungs properly. Judith can tell you that she felt *short* of breath, and they feel that way. They become panicky and want a doctor quickly. Anything that stops the panic, a hypodermic sedative or the paper bag, lets nature readjust the blood chemistry."

"Philip and I were panicky," said Old Sock facetiously.

"But Judith did the hyperventilating of the lungs—and became panicky after she felt the effects of alkalosis."

"Say, Dad," interrupted Judith, "don't your patients feel sort of foolish when you cure 'em with an old paper bag?"

"Yes, but grateful."

"And you never tell such patients to breathe deeply," she directed a mean glance at Old Sock, "unless you have a paper bag on them, do you?"

"Aw, you emoting guinea-pig," exploded Old Sock scornfully, "a scientist tries the wrong thing sometimes just to learn what is right. . . . I'm going to bed, but tomorrow I'm going to hyperventilate just to see what it feels like."

"Better get your paper bag on before your arms become too stiff to hold it," giggled the Dumb Cluck.

"And be sure you know what you are doing—with your paper bag trick on any one else," Mrs. Answith warned his departing back.

"Yes," called Dr. Answith, "your patient might have an acidosis!"

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DIABETES, DOCTORS and DOGS

Part II—Progress in Diabetes Depends on Scientific Investigations

By ELLIOTT P. JOSLIN

I WAS always brought up to believe that my Newfoundland dog, Major, on two occasions saved my life. Perhaps he did. At any rate, I do know that he always tried to protect me, and in so doing I am sure he did not think of himself. Last summer I could see that Jack, the big police dog, was just like him. Jack was an old dog, born on the same day as Mary, ten years ago. He was so anxious to protect her and Bet, Henry, Timmy, Patsy and Geraldine, who lived on our hill with her, that we felt compelled to put up a sign, "Beware of the dog." One year of a dog's life is equivalent to about seven years of a man's life, and so Jack was like a man 70 years old; but he did not show it, because he never failed to recognize a second time all the friends to whom we introduced him.

I remember only too well pictures from the past: in my boyhood days the long mournful processions going by our house and winding off Main Street behind the church, processions caused by the frequent deaths from consumption; the panic which a case of diphtheria in the district school aroused; during my medical assistantship at the Massachusetts General Hospital, the wards filled with typhoid patients, and finally, as a doctor in the days before the discovery of insulin, the diabetic children, who touched me the most of all because every diabetic child I treated died. You can imagine how sorrow changed to joy when I learned that as a result of their experiments on dogs, Banting and Best had discovered insulin and thus made life with comfort possible for diabetic boys and girls.

Therefore just before the discovery of insulin, when the pros and cons of the subject of animal experimentation were up for discussion before the Massachusetts legislature, I read to the committee a letter from the mother of Rexane, a little diabetic girl of 10 years, the youngest child in my group before the discovery of insulin who had lived as long as seven years. The committee kept the letter, but I still have the picture I showed of Rexane and her dog. The letter was signed by Rexane's mother and told how all the family loved Gevis, the little dog in Rexane's arms, and could not bear to part with him. But they felt sure that if an experiment could be performed painlessly on Gevis under careful conditions, which might result in prolonging Rexane's life in comfort, it should be done; she and her family were sure that if Gevis could be asked he would more than willingly undergo it even if it did result in the sacrifice of his own life. Evidently the committee felt the same way, because studies on animals have been allowed to go on. This incident expresses my attitude toward animal experimentation, and as yet I have not met a parent among those whose diabetic children I have treated who feels otherwise.

REXANE AND HER DOG, GEVIS

Dogs are so good to the diabetic. Many years ago I recognized this and wrote about it. My publishers have kindly allowed me to reprint here a chapter from my "Diabetic Manual":

A dog is a diabetic's thoughtful friend.

A dog never says to a diabetic, "You are thin," never speaks about his diet, never tempts him to break it and to eat a little more, never refers to the delicacies he himself has eaten or the good bones he expects to eat, in fact never implies by any signs or action in public or private that he knows his master has diabetes. A diabetic is never embarrassed by his dog. How often he wishes his friends were as considerate!

A dog is a diabetic's teacher. His dog shows the diabetic how to rest and sleep at odd moments, shows him how to exercise and play, recognizes the value of sunshine and sets him a good example by cleaning his paws every night. A dog is cheerful. The friends of a diabetic sometimes wish that he would take lessons from his dog.

From experiments on a dog Minkowski found out that diabetes originated in the pancreas. From experiments on a dog Allen learned that undereating helped and overeating harmed diabetics. From experiments on a dog Banting and Best discovered insulin.

When I see this little boy, George, and his dog, Bob, and their devotion to one another, I am reminded of the million diabetics and future diabetics in the United

States who may not be holding a dog in their arms, yet are alive today or will be alive, enjoying better health and happiness, all because a few dogs through the instrumentality of multitudes of scientific workers have revolutionized the treatment of diabetes.

Would you want to be a member of a society if it had for its object the prevention of a dog saving the life of a child? Do you think this dog, Bob, would want to join such a society?

Sometimes when adults complain about their diabetes, protest about giving themselves insulin or find fault with blood sugar tests, I wonder whether they realize their indebtedness to dogs and to diabetic children as well. I wish I knew how many diabetic adults have taken courage or felt ashamed when they have watched Betty Anne, 2½ years old, giving herself insulin.

Few diabetic persons, I surmise, realize that the tests of the new protamine insulin have been carried out largely with little children. Louis was one of my first patients to try it. He did not whimper but allowed us to do five blood sugar tests a day for fifteen days in the autumn of 1935. To be sure, all these tests proved for the time being to be of no avail to him, because that preliminary lot was defective, the only one that has failed thus far. When Louis was going through these tests I could not help recalling President Eliot's adaptation of the Greek motto which he had inscribed on one of the buildings of the Harvard Medical School:

> Life is short,
> And the art long,
> The occasion instant,
> Experiment perilous,
> Decision difficult.

At present instead of having insulin injected four times a day and being troubled with reactions, Louis requires the new protamine insulin only once a day. In fact, throughout all of last winter he had only two slight reactions and was quickly revived with a little extra food.

THE source of my first inspiration and hope for my diabetic patients is found in "The Treatment of Diabetes Mellitus" (fifth edition, table 95). In this table my colleague, Dr. Howard F. Root, has gathered together the results of blood sugar tests of seven old diabetic victims the week before and the week after they had undergone amputation of a leg. In health the sugar in the blood is less than 140 milligrams before breakfast and below 170 milligrams after a meal. In controlled cases of diabetes it is nearly the same; but when the disease runs wild, the blood sugar is increased and may be from two to ten times as high. The table shows how these values fell from 270 milligrams per hundred cubic centimeters the week before operation to 260 the first week after operation, 190 the second week, 160 the third week and 130 at discharge. This table convinced me that if old diabetic people could improve in the hospital, they should also be able to improve if they kept up the same kind of treatment in their own homes. Furthermore, younger diabetic patients ought to improve similarly if faithful to treatment.

With all the gains in methods for its treatment, why then is diabetes increasing? How can this happen, the skeptic of modern diabetic therapy and particularly of treatment with insulin asks, if the methods are really improving? The questions are answered easily. First of all, today diabetes is recognized more frequently, and this swells the total number of cases. Laboratory tests for the presence of sugar in the urine are far simpler than formerly and so are more generally employed. One cannot enlist in the Army, be admitted to college, get a job in many of the foremost industrial plants, in most instances take out ordinary insurance (about 4 million persons are examined for insurance each year in the United States) or even remain in a hospital or jail without an analysis of the urine. Fifty years ago such tests were infrequent, and one of my professors at Harvard Medical School, who in his early days had been a house officer at the Massachusetts General Hospital, knew of so few methods for proving the presence of sugar in the urine that he depended on one of his senses. I read in the hospital records made in his own handwriting that, "The urine tasted sweet." Do you wonder few tests for diabetes were then made! Today it is estimated that one person can make and record in the space of an hour forty qualitative and almost as many quantitative tests for sugar in the urine.

The second reason for the increase in diabetes is the aging of the population. Diabetes is chiefly a disease of adults. Two thirds of all cases of diabetes begin above the age of 40 years. In 1845 in Boston few persons lived to that age. In fact, 80 per cent died before they attained the age of 40 years. Today in Massachusetts 80 per cent die after the age of 40. It is no

LOUIS WITH HIS NURSE AND HIS DOG "MOSEY."

wonder there are more diabetic persons. Finally, one must remember how much longer diabetic patients live, and, therefore, how much more they are in evidence. The average age at death of my diabetic patients formerly was 44 years, but now it has risen to 63 years.

VACCINATION affords protection against smallpox. Diphtheria antitoxin prevents the acquisition of diphtheria. Typhoid inoculation guards against the development of typhoid. All these diseases are caused by germs, and Pasteur taught how to attack germs. Diabetes, however, is not transmitted by germs! The tendency toward it is hereditary. So what can one do? At first thought, one would seem to be up against a stone wall, because one cannot pick out one's ancestors. But the picture is not so bad as that, because if diabetes develops there must be, according to modern theory, the presence of diabetes in both parents or in ancestors of both parents. In other words, it takes two to make a diabetic. On the other hand, one can be technically a "carrier" if a diabetic heredity is only on one side of the ancestry. It has been estimated that there are 30 million such carriers in this country, persons who do not have diabetes themselves but who can pass it on to some of their children. One who knows of a diabetic relative in his family tree should take pains to tell his children, present or future, to try to find a wife or a husband among the 90 million nondiabetic persons in the United States who have no diabetes in their family history. Even if both parents should have it, and thus all their children are destined to become diabetic, remember that only in one-third will diabetes develop under the age of 40 and in the last 1 per cent only when they are well above the age of 80 years. Furthermore, even if there were a hundred children of parents, both diabetic, only one half actually would show it, because the other half would die from other causes before they reached the age at which diabetes would be expected to develop.

The outstanding inciting cause for diabetes in an hereditarily predisposed individual above the age of 40 years is obesity. Long ago I found out that only 8 per cent of 1,000 of my patients were thin before they acquired diabetes; and of the 252 in the group between the ages of 51 and 60, there were but 2 individuals, less than 1 per cent, who had always been underweight.

To prevent diabetes, therefore, there are two things to do: First, two diabetic persons should not marry and have children; and it is the part of wisdom for a person afflicted with diabetes, if he does marry, to choose a partner from a nondiabetic family. Second, any one who has a relative with diabetes should never allow himself to become fat. Strict adherence to this rule may result in benefits that will offset the handicap of a diabetic heredity. Obesity carries with it a great many ills in addition to that of favoring the onset of diabetes.

I have always liked the idea of a personal treatment, individual treatment of the diabetic. I know that the diabetic patient who plays the game squarely and never cheats, who thinks about his disease and profits by the study of it, who leads an even life and works hard is the one who lives the longest. But he needs to be told and taught these facts. If he is endowed with unusual common sense and uses it, he can add 50 per cent to his expected life's span. Diabetes is an individualistic disease, and it cannot be regimented. The individual patient and next to him the family doctor are the factors for success. It is for the diabetic patient and the family doctor to join in partnership. No one else can fight the disease as well as they.

YET there is something finer and nobler for a patient with diabetes than merely personal or familial benefits to be obtained from living according to rules. Each diabetic person carries in himself the opportunity to help or injure the 499,999 other diabetic persons living in this country. It is a struggle for those with diabetes to get an education or a job. The diabetic patient who fails in school or at his job or who is stupid about his insulin, diet or personal hygiene injures the chances of all the other patients being given similar opportunities. Conversely, if the diabetic person does well, he advances opportunities for the whole fraternity of diabetic sufferers. And this is not all. A victim of diabetes learns a good deal about medicine and about good hygiene, and he knows how to test the urine for sugar. By applying this knowledge to his family, he should be able to protect them from many ills and often defer the onset of diabetes in those dear to him. Even if he should fail in this, at least the disease would be detected early, and the early discovery of diabetes leads to favorable results.

Some might conclude that I have placed more responsibility on the diabetic patient than he should be expected to bear. I disagree. Not only do I believe that these persons should assume responsibility in life, but I believe their responsibility does not end with life but extends beyond. Diabetes is universal. Until the reason for the death of each diabetic patient is known, the maximum progress is impossible. Each victim of diabetes should provide an opportunity to secure additional information about his disease by making provision for an autopsy, which may be looked on merely as an operation after death. An operation during life is attended with pain and helps only the individual; an operation after death is painless and is for the benefit of one's family and humanity.

[NOTE.—The quotation from Dr. Joslin's "Diabetic Manual" is reprinted by permission of the publishers, Lea & Febiger, Philadelphia.]

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Guiding Adolescent Interests

THE SIXTH OF A SERIES OF EDITORIALS ON UNDERSTANDING THE ADOLESCENT

SOMETHING NEW had come into William Dodge's life. His parents, teachers, brothers, sisters and schoolmates noticed the change in him. William had always been conspicuous because of his slovenly appearance. He cared nothing about having his clothes cleaned and pressed, his hair cut, his shoes blacked or the kind of neckties he wore. His mother and sisters remonstrated with him and finally gave up in despair. There seemed to be nothing that they could do, and they did not want to make his life unbearable through constant nagging. And then quite suddenly, so it seemed, William was a different boy. He shined his shoes until he could almost see himself in the reflection. He insisted that his trousers be pressed. Nearly all his neckties became unsatisfactory. He became fussy about the way they were tied, and so he selected and tied them with great care. His hair was stubborn, and he took so much time in combing, brushing and plastering it down that he was often late for breakfast. Just what had come over William?

Mr. and Mrs. Dodge fortunately were parents with a keen and appreciative understanding of adolescent boys and girls. They suspected and soon found the occasion for the marked change in their son.

IT WAS Peggy O'Neil. They first suspected it when they noticed that William was taking a roundabout way to and from school, and then one day Mrs. Dodge found William and Peggy walking hand in hand on their way to school. They were so engrossed in each other that she walked right by them, and they were totally unconscious of her presence. Yes, William and Peggy were in love. Perhaps it was "puppy love," but it seemed genuine and permanent to them. It was to be expected. William was 15 and Peggy was 14, about the time when youth traditionally falls in love.

This new and powerful emotion was absorbing a good part of William's life. He spent much time in day-dreaming. One morning his mother found a poem which he had left on his desk in his room. Thinking that it was some of his school work she read it through only to find that it was dedicated to Peggy. In this poem, William had magnified all her physical and mental charms.

IT REQUIRED tact to deal with William's adventure in romantic love, but Mr. and Mrs. Dodge were equal to the situation. First of all, while they were inwardly and privately amused with his infatuation they did not make fun of it. They treated it in a natural way as if it were an everyday occurrence. They immediately recognized the chance to make use of and guide this new interest. It was so much easier to guide this new interest in personal appearance than it was to inspire and guide it too. Growth and development were on their side. Now was the time to strike while the iron was hot. William was allowed to select for himself the clothes that he needed, subject to the limitations of the family budget and standards of good taste. Peggy was going to a dancing school, and William in spite of the fact that he had been set against it when his mother had urged him to go before this time was eager to join the class. The mother was delighted and gave her consent. She realized that he would learn not only dancing but cultivated manners as well. Parties were given at the Dodge home to which William's friends were invited. In this way he had a chance to meet Peggy and other girls and under his mother's supervision to get worthwhile social training.

Both William and Peggy were fortunate in going to a high school where youth was understood and appreciated. The principal and his teachers were also sensitive to the mutual attraction of boys and girls at this period and the need of their meeting one another socially under the best influences. Parties and dancing were provided under faculty supervision.

The teachers in the various departments of the school were also alive to the possibility of utilizing the interests of their pupils. Miss Randolph in the English department took up the writing of letters, invitations and other forms of polite correspondence. Some famous letters were studied. Among them were several love letters of rare beauty and dignity.

ADOLESCENT boys and girls are often much embarrassed in polite society because they do not know exactly what to do. This is especially true of those who lack certain advantages in their homes. This deficiency of knowledge sometimes leads them to avoid certain social situations and to develop a sense of inferiority. Miss Walters found a pleasant approach to these problems in social studies through the story of how customs and man-

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ners developed through the ages. "The Customs of Mankind" by Lillian Eichler was fascinating reading. The historical background of table manners, for example, led naturally up to a consideration of the table manners of today.

Every girl in the senior class was encouraged to make her own graduating dress. This instruction was given in the regular classes in home economics, but other classes not offering credit were open to those who wished to sew. Lectures were given on the fine art of dressing, and an opportunity was offered to pupils to talk over their problems of dress with a teacher in the home economics department.

Boys might be opposed to taking a course in cooking similar to that taken by the girls; but when this instruction was offered in a health course under the caption of "Camp Cooking" it became popular. Most boys want to be good campers, and of course cooking is a necessity for camping.

In the chemistry laboratory the pupils analyzed foods. There were also analyses of various drugs and "patent medicines." Reports of the American Medical Association on "patent medicines" were studied carefully. The value of nourishing food, fresh air, exercise, sleep and good health habits in promoting health and an attractive appearance were emphasized.

A teacher of physical education and hygiene scored a point in showing her pupils slides of shadowgraphs which indicated the posture of pupils before and after treatment and training in posture. Shadowgraphs were made of all the pupils, and those who were dissatisfied with their posture were invited to confer with their instructor. As a result many of the pupils took a keen interest in improving their posture. They realized from their observation of the shadowgraphs what a difference posture made in their appearance.

Mr. Fox in a survey of world history called the attention of his pupils to the unfolding of the history of medicine along with general progress. Knowing that adolescents were naturally hero worshipers he suggested readings on Hippocrates, Galen, Leuwenhoek, Harvey, Vesalius, Pasteur, Florence Nightingale and others. Reference was also made to those like Trudeau and Beers who with handicaps had achieved health through their own efforts.

Both Mr. and Mrs. Dodge and the school were proceeding on a sound principle; namely, that interest represents tendencies to action and that such tendencies needed intelligent guidance if boys and girls were to grow up healthy in body and mind.

A TEACHER OF PHYSICAL EDUCATION LOOKS AT MENTAL HYGIENE

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Is there an opportunity to teach mental health to boys and girls in classes in physical education? What are their needs? How are they to be discovered? What principles and methods of guidance are to be recommended? These are some of the questions suggested and considered by a teacher of physical education who is getting results.

A PHYSICAL education instructor who dares to venture into the field of psychologic research must seem as incongruous as the proverbial "bull in the china shop"; but the idea is not as preposterous as it may seem, for the physical education department has an enormous opportunity to assist in the mental and social adjustment of the children who come under its supervision.

We have talked so much about complexes, superiority, inferiority and what not, that we often think of them as problems for the psychologist and feel no responsibility concerning them. However there is often real tragedy in such an attitude on the part of the teacher. Not long ago a graduate student at a certain university took his own life because of a complex, arising from the fact that he had been tormented about his long nose. Thousands of people go through life embittered and unhappy because of some real or imaginary grievance.

These complexes start to form early in life. During early childhood they remain more or less dormant. The individual attention of the teacher in the kindergarten and the lower grades contacts the heart of the small child and helps to harmonize his life with the lives of his playmates. It is at about the seventh or eighth grade that life begins to be especially difficult for many children, particularly those who are shy, small or physically handicapped. At that time the child is thrown in with a larger group, with a different teacher for each subject. Because of the great number of children with whom the teacher comes in contact each day, there is little time for individual study, and it is hard to reach a sympathetic understanding of the child's problems. Because he doesn't quite know how to mix with his playmates, because he is unable to hold his own in their games and play, he is left to himself more and more until he gradually begins to feel that he is an outcast and is disliked by the other children. He lives a life apart, which is intensified if he happens to have some physical peculiarity which brings taunts and jests from the more active boys.

There are many such cases in which a little individual attention on the part of the physical education instructor may help to develop the necessary skill and self confidence to make the child an acceptable member of the group. A little special instruction and sympathetic interest may conquer for all time a complex which might develop into a bitter resentment against society.

With classes ranging from 75 to 125 the physical education teacher has little time during class period for individual work, but an effective special help group can be organized during activity period. Such an experiment has been in operation among the boys in our junior high school for the past four years, and the results have been most gratifying. In our case the period is devoted not only to those boys who are shy and do not know how to play but also to other children who show any tendency toward maladjustment. The group includes undersized and underdeveloped children, those who have unusually heavy schedules or heavy tasks to perform at home, those who

have slight physical handicaps and others requiring special attention.

Many of these cases are discovered through skill, strength and personal adjustment tests, while others are located through the careful observation of the instructor in cooperation with the principal. After the members of the group have been selected, "case histories" are prepared so that the instructor may go about his work scientifically and efficiently. Having completed the diagnosis a method of procedure is worked out for each child. In the case of the shy and inactive child, instruction and practice with others of the same type will tend to give him the skill and confidence which he could not acquire among boys already proficient in sports. In the case of the underdeveloped child, exercises particularly fitted to his needs are given and carefully supervised. There are also to be found in this group, boys who have arms or legs slightly stiffened by broken bones which have not quite regained their usefulness. These boys are given moderate and careful exercises which will hasten the return of the limbs to their normal functions.

While nothing of a serious nature should be undertaken by the physical education teacher unless he is especially prepared for corrective work, much can be done in the way of remedial work in cases of round shoulders, sunken chests, weak back muscles, slight spinal curvatures, flat feet and other minor physical defects.

Possibly you are wondering what connection there can be between psychologic complexes and flat feet, but often a feeling of inferiority, a feeling of "being different," arises from slight physical disabilities, which might easily have been corrected if taken care of in time. A few exercises, well chosen and faithfully performed, may correct a curvature which might in time disfigure the individual and create an unhappy and bitter state of mind. Much is being done in the way of remedial and corrective work in the universities, but it seems to me that we are "getting the cart before the horse." Habits are pretty well formed, and bones and muscles are pretty well set by the time a boy reaches the university. Many of them, of course, never reach there. Why not start our remedial work while bodies and minds are still pliant and flexible and while habits are being formed? Why not start our remedial work in the junior high school or better still in the elementary grades?

Perhaps it may seem hard when classes are full to overflowing to take on voluntarily an extra hour of difficult and highly specialized work; but it is worth the effort, and the satisfaction of seeing maladjusted boys and girls happily taking their places in child society will more than compensate for the extra energy expended.

TACKLING A REAL HEALTH PROBLEM

MARJORIE VAN HORN
Camden High School
CAMDEN, N. J.

The selection of a nutritious diet on a small budget is a problem faced by thousands of families today. Children may acquire a keen and intelligent insight into practical home and personal hygiene by studying the needs of an imaginary family and the way those needs may best be satisfied. Read about the value of such a project in the high school at Camden, N. J.

IN OUR high school as in many other industrial cities many of the pupils' parents are on relief or are paid by some such government funds as the P.W.A. Money is scarce in many homes. There is often little knowledge of food values and little information about balanced diets which can be made from low cost foods and with small expenditures of money.

In one unit of the eleventh grade health work in our school, there is used an imaginary family consisting of an anemic father, a nursing mother with a 7 month old baby, a boy of 5, a boy of 11 and a high school girl of 14, who is particularly susceptible to colds.

The first lesson is spent in ascertaining the food needs of this family. These are proved to be foods that will build muscles and red blood corpuscles for the father; a milk-producing diet for the mother; vegetable and fruit juices for the baby to prevent rickets and scurvy; a menu for the boys that will be filling as well as growth inducing, and those foods for the girl which increase the body's resistance to diseases, particularly pulmonary infections.

"What foods will supply these requirements as well as supply appetizing and inexpensive meals?" To answer this question the pupils then classify foods by vitamin content and their ability to furnish the desired nutritive elements. Here the girls learn that many articles of the diet can be used as protective foods for more than one kind of deficiency. For instance, fresh milk is rich in vitamins A, B and G and contains two of the most important bone building minerals, calcium and phosphorus. Because of vitamin A, milk would be good in this imaginary family for building resistance to disease, for child growth and for the prevention of dental decay. The vitamin B content of the milk would be particularly good for the nursing mother, and the G element would aid the nervous, anemic father. So also are carrots, spinach, eggs, tomatoes, cabbage and peppers a large source of several vitamins, as well as appetizing articles of a diet that can be varied and interesting.

The class members generally decide that the imaginary family will need in addition to other bulky foods the following:

One teaspoonful of cod liver oil every day during the eight "cold months" for each member of the family.
One egg at least every other day for each member.
One pint of fresh milk every day for each member.
Some citrus fruit each day for every member including the baby.
A salad or leafy vegetable every day for each member.
Liver once a week for all and oftener for the father.
Cabbage or carrots and lean meat at least once a week.

The next job is to find the cost at the various local stores of the foods listed as necessary for the family's health. Included in this list are also the things that the class thinks might be desired by various members of the family, such as candy, cake, coffee, "hot dogs," spices and relishes.

The interesting period, during which many arguments and discussions take place, is when each pupil

makes up a menu for one week for this family and is required to supply all the needs that have been stated and to keep the total cost of all the foodstuffs used within the $8.50 that was determined as the average food allowance for such a family in our area. The completed assignment must contain not only the menu but the market order with prices and amounts of foodstuffs that were bought.

Many exceptionally fine projects are worked out. The clever girls succeed in providing for this family a satisfying week's diet which not only comes well within the requirements of price, nutritive elements and resistance-building foods but also affords individual satisfaction for the various members of the family. All the students have a chance to tackle a real health problem that faces most of them.

SKIPPY, FRISKY AND POPCORN HELP TO TEACH NUTRITION

F. FERN FERNEAU
Fort Wayne Milk Council
FORT WAYNE, IND.

Again rats demonstrate that good food makes for good health. Through a demonstration of rat feeding, a skilful teacher arouses the interest of both pupils and parents in practical nutrition problems.

A MOST interesting and successful rat feeding demonstration has just been completed in the sixth grade of the South Wayne School in Fort Wayne, Ind.

The Fort Wayne Milk Council cooperated with the school in this project, which was under the supervision of the teacher, Miss Adah Burdett. A large part of the success for this experiment was due to her enthusiasm and interest. First of all, Miss Burdett carefully planned all details, such as a selection of diets, and schedules for feeding and caring for the animals. The children soon caught this spirit of enthusiasm and were eager to accept their share of the responsibility.

The committee of three pupils elected to take charge of the rats was not known by the commonplace name "committee." These pupils were called the Keepers of the Rats. Three boys were chosen as Keepers, and they were quite proud of their positions. The Keepers then had Helpers, who were responsible for such duties as bringing food on certain days.

Then, again, the white rats to be used in this demonstration were not to be known merely by the numbers "one, two and three," or by the letters "a, b and c." Added interest was given the project by giving names to the animals. Each child in the class suggested suitable names for the rats, and the names were posted on the board. These were then voted on, and Skippy, Frisky and Popcorn were chosen.

While this demonstration was primarily for the children, Miss Burdett says that she learned quite a bit also. First of all, she learned that while the white rats belong to the rodent family they are far from being "just rats." They are small, gentle, friendly and clean and are easily caged and handled. Not only the children became fond of them, but she herself did. She found that the effects of a balanced, an ordinary and a poor diet can be easily demonstrated in a short space of time with them. The rats will eat food which human beings enjoy and in the main respond to different types of diets as they do. She found that the children worked along with the demonstration most willingly and cooperatively, doing practically all the work.

During the time Skippy, Frisky and Popcorn were guests at the South Wayne School, open house was held, and many parents and visitors came to the school. The interest shown in this feeding demonstration was most gratifying. One father who had not been able to go many places since receiving injuries in an accident made a special trip to the school during open house to see the rats. His son had talked so enthusiastically about them that he felt he must see this activity his boy liked so well.

I believe that Miss Burdett would tell you that there is nothing quite so effective as the rat feeding demonstration for giving children the right attitude toward good food habits. Seeing is believing with youngsters.

Each rat had plenty to eat and drink at all times. Each received the same kind of attention, such as careful feeding, clean food, clean dishes, clean cages, careful weighing, being kept in the same room under the same conditions, protection from cold, and cages of the same material, size and design.

An x-ray picture was taken of the three rats shortly before the end of the experiment. It showed that Skippy's bones were well formed and solid. Skippy had milk and other dairy products. It is a well known fact that milk is the most important source of lime for tooth and bone building. The size and weight of Skippy's bones made him larger, heavier and stronger than the other two animals. His weight was not due to fat. Frisky's bone structure was far from being as good as Skippy's, while Popcorn's was small and weak.

At the end of the sixth week of the experiment, Skippy and Popcorn exchanged diets, and some interesting results were obtained.

The rats were always closely observed, and graphs were kept, showing their growth. A story of the experiment appeared in the *South Wayne Sun*, the school paper. Sketches by children showed the three rats in their respective cages; the rat weight graphs and paragraphs taken from pupils' accounts were contained in the article. Here is what one 6A pupil wrote: "We feed Skippy milk and vegetables. We feed Frisky vegetables and no milk. But we feed Popcorn coffee and sweets. Which kind of food makes you grow the best?"

There isn't a child in the class who could not answer that question correctly.

SKIPPY	FRISKY	POPCORN
	BREAKFAST	
Whole wheat bread	Bread	Sweet Roll
Butter	Whole grain cereal	Coffee
Whole grain cereal	Water	
Egg		
Milk		
	LUNCH	
Cheese	Vegetables	White Bread
Bread and butter	Bread	Potato
Vegetables	Water	Water
Milk		
	DINNER	
Meat	Meat	White bread
Potato	Potato	Potato
Bread and butter	Water	Candy
Vegetables	Bread	Water
Fruit	Vegetables	Coffee
Milk	Fruit	

PRACTICAL TRAINING IN FIRST AID

FLORENCE NELSON
Editor, Safety Education Magazine
NEW YORK

Training children to meet emergencies is so valuable that it should take precedence over learning the products of Brazil or the rules of cube root. Skill in first aid may save serious illness or even life itself. What training is necessary, and how may it best be given? These are the problems proposed by Miss Nelson in the sixth of her series of articles.

WHILE the safety education program has as its primary objective the *prevention* of accidents it should include definite instruction

(Continued on page 188)

New Books on Health

THE PROBLEM OF NUTRITION

VOLUME IV. STATISTICS OF FOOD PRODUCTION, CONSUMPTION AND PRICES. Documentation prepared by the International Institute of Agriculture. League of Nations Publications Department, Geneva (Switzerland). Paper. Price, 75 cents. Pp. 110. New York: World Peace Foundation, 1936.

THE fourth volume in the series issued by the League of Nations on the problem of nutrition represents a partially completed study by the International Institute of Agriculture at Rome. It is concerned with the available statistical material—much of it is insufficient—on the production and consumption of important classes of foods, such as milk and dairy products, meat, eggs and poultry, fruits and vegetables. Data on the production and consumption of cereals and sugar are also presented for comparison. The statistics for fluid products such as milk are reported in terms of imperial gallons and the other products in terms of long tons of 2,240 pounds. This is particularly noteworthy because in a publication of this caliber one would expect to find the metric system used, rather than the British system of weights and measures.

Those persons who believe that the United States leads the world in the consumption of milk would do well to examine table VII on page 20, which gives the estimated consumption per head per annum of milk, butter and cheese. On this basis the average individual in the United States consumed 39 imperial gallons of milk yearly during the interval from 1930 to 1934. This intake is exceeded only by the average inhabitant of Switzerland, who consumed 58 imperial gallons per annum during the same period. However, if one adds together the milk equivalent of the butter and cheese which are consumed, it is found that the United States is surpassed not only by Switzerland but also by Denmark, Norway, Great Britain, Australia and New Zealand in its milk consumption. These figures, it may be pointed out, include condensed and evaporated milk, as well as fluid milk.

The book brings out the incompleteness of the data available in regard to most foodstuffs, and the necessity, therefore, of making further serious efforts to complete information of this type on an international basis.

F. C. BING.

FOOD, FITNESS AND FIGURE

By Jacob Buckstein, M.D., and Harlow Brooks, M.D. Price, $2. Pp. 252. New York: Emerson Books, Inc., 1936.

THIS is a book on diet and nutrition, with less attention to the question of figure than the title seems to promise. The authors devote much time in the beginning to necessary fundamentals and proceed in a logical manner to the main point; namely, weight control. However, so much time is spent in arriving at the destination that the reader grows weary. There is too much material in the book, which is of interest mainly to physicians, dietitians and students of nutrition. The book is not sufficiently documented to be a scientific treatise, yet neither is it presented in textbook or workbook style. It is therefore not wholly satisfying either in one classification or another, though the author is quite obviously well qualified from a scientific standpoint. The specimen diets for reducing, maintaining or increasing weight are based on sound principles but are open to the objection that they will inevitably, in spite of the author's warnings to the contrary, lead to self prescribing and to the misconception that this scheme and no other leads to satisfactory dietary habits. The calorie tables and charts, taken from other sources, contain the standard information developed along these lines by numerous students in the field of nutrition. The book is authentic and dependable but not particularly readable.

W. W. BAUER, M.D.

HEALTH FACTS FOR COLLEGE STUDENTS

SECOND EDITION. By Maude Lee Etheredge, M.D., Dr.P.H. Cloth. Price, $2. Pp. 365. Philadelphia: W. B. Saunders Company, 1936.

THIS book is intended as a textbook for college students and should be classed with the best of such books available.

The subject of alcohol is well handled. This topic is one which can easily ruin a work because of bias and prejudice on the part of the author. It is here presented simply and gives only known and established facts.

The chapters on reproduction and sex are adequate and are simply and not at all sensationally presented. The paragraphs on venereal disease stress the need for education of the public as the means for prevention of this scourge.

The ten pages dealing with tuberculosis are wholly inadequate and misleading. Since between the ages of 20 and 40 most cases occur, the college student should be vitally interested and be given correct information. Dr. Etheredge does not sufficiently stress that contact is the main source of infection, that gastric upset and hemorrhage from the lung are also early symptoms. The terms "tubercular" and "sanitarium" are incorrect. Treatment today is far different from that of fifteen years ago. Sunshine does not play the important rôle, but rest, both physical and surgical, is the method of choice. The surgical rest given to lungs is an important matter since the period of hospitalization is reduced and return of the patient to work is hastened.

The chapters on public health and hygiene are admirably done. In the part dealing with first aid, too much attention is given to treatment with definite remedies. Naming proprietary articles is not recommended; rather the pharmacopeial names should be given.

Altogether it is a well written, detailed textbook of health facts which needs but few changes to make it an excellent reference work for college students as well as for homemakers.

P. A. TESCHNER, M.D.

[NOTE.—Books reviewed or mentioned on this page, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association.]

QUESTIONS AND ANSWERS

Eyeglasses for Myopia

To the Editor:—I am 24 years old. I have been wearing thick glasses since 6 years of age. My eye trouble is myopia. At the present time, I am wearing the new myodisc glasses (thick in the center, thin on the outer circles). The glasses improve my appearance, but are they safe for my eyes? Is there any known operation to cure myopia?

M. J. S., Ohio.

Answer.—Myopia of the higher degree is a definite disease of the eye and as such should be cared for by a medical man. A nonmedical refractionist is not qualified to look after such matters because of insufficient training. An accurate correction of the myopia is of utmost importance. This can be done properly only when drops are used to dilate the pupil and permit an accurate measure. In a higher myopia of this type, glasses may have to be changed as often as every year in order to maintain full sight and to try to prevent the myopia from increasing. If there is a rapid increase in the myopia the surgical removal of the lens may be of value; but apart from that procedure there is no other operation. Exercises are futile. It really makes no difference whether the myodisc or a full glass is worn, for only the central area of the glass is used.

Use of Antiseptics Following Electrolysis

To the Editor:—Is the use of warm compresses after an electrolysis treatment proper? Is a 70 per cent alcohol swab with an antiseptic powder a better after-treatment? Several little pimples have appeared after an electrolysis treatment, although the operator took every precaution. First she swabbed the area to be worked on with alcohol. She also wiped each needle. After treatment, she immediately swabbed the area with alcohol, then applied a zinc ointment and wiped that off, then a lotion and the antiseptic powder.

Mrs. J. T. L., Massachusetts.

Answer.—The use of warm compresses, preferably of boric acid solution, after electrolysis treatment is a proper measure. Likewise, the use of 70 per cent alcohol, followed by dusting the treated area with an antiseptic powder, is also proper. It is not possible to tell from the description whether the pimples mentioned may be due to secondary infection or to some other condition, and it might be well to consult a physician specializing in dermatology to determine their exact nature. Ordinarily, simply sponging the affected areas both before and after treatment with 70 per cent alcohol, followed by an application of boric acid powder, is sufficient to prevent secondary infection; this is true provided the needle is sterilized, preferably by flaming and wiping with alcohol, and also provided no manipulation of the treated areas with the fingers is subsequently done by the patient. If there is moderate swelling of the treated areas, sponging them every two hours with witch-hazel helps to reduce the swelling and prevent infection.

Possibility of Lead Poisoning from Shot Pellet in Canned Game; Food Value of Chicken Liver and Beef Liver

To the Editor:—During hunting season, when more pheasants or chickens are shot than can be immediately used, they are frequently canned to preserve them. When a shotgun has been used it sometimes happens that a shot is left unnoticed in a piece of meat when it is being cleaned for canning. Is there any danger of lead poisoning in eating such meat? Would shot left in one piece contaminate another piece in the same can? Would the length of time the meat remained sealed make any difference in this respect? Is it advisable to feed liver to an 11 month old child?

Mrs. L. C. Z., North Dakota.

Answer.—There is no danger of lead poisoning from pellets of lead shot left in the bodies of game birds. This applies to the meat that has been preserved by canning as well as to the length of time that such meat is preserved. Lead is dissolved slowly, and with the exclusion of air and the absence of acid required to dissolve lead, the amount of lead that could be taken by the person eating such meat would be extremely small. Also, the area of meat that may become affected from the lead pellet is entirely too small to be of any consequence. It is assumed, of course, that the person does not swallow the lead pellet.

Beef liver is an excellent source of vitamins A and B and of protein and iron. It is also a good source of phosphorus. Chicken livers are also a good source of protein, though not quite as good as beef liver. Chicken liver is considered a good source of iron and of vitamin A. Vitamin B and phosphorus are present in fair amounts. There is no reason why a child should not be served chicken liver.

Whitening of the Teeth

To the Editor:—My teeth are dark, even though I brush them daily. Can you tell me of a safe "whitener" and a good tooth paste?

E. B., New York.

Answer.—Teeth cannot be "whitened" except by drastic methods and only through the inside of the tooth. Teeth which vary from their normal shade because of diseased pulp may be lightened in color. Teeth vary in color from white to almost a steel gray. No safe method is known by which teeth can be bleached beyond their original shade.

Any claim that a dentifrice whitens teeth is not supported by careful evidence. All a dentifrice can be expected to do is to assist the toothbrush in cleaning the teeth. For this purpose a dentifrice should be safe in composition, and it should be advertised with no unwarranted representations.

A list of dentifrices which have been found acceptable on these grounds is available from the American Dental Association, 212 E. Superior Street, Chicago.

(Continued on page 187)

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

WANT TO MAKE APPETITES STAND UP AND CHEER?

TRY CANNED CHERRIES

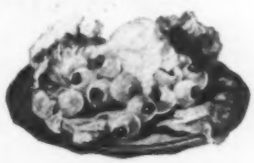
BESIDES THE GOODNESS OF NATURE'S FRUIT SUGARS, CANNED CHERRIES CONTAIN SIGNIFICANT AMOUNTS OF VITAMIN A

Among the miracles that are now every-day conveniences for you, are canned cherries. Think of it!... delicious, ripe fruit from orchards hundreds, even thousands of miles away, at your finger tips year 'round! Picked when full of fresh flavor, cherries are graded, cleaned and rushed into cans within hours of picking. Then they are *seal-cooked,* the modern, scientific way *that locks IN their fresh goodness.* Keep a supply of cans on hand, both the big, meaty *sweet* cherries and the bright red *sours.* Serve them often. Your family *will* cheer, as you'll discover.

The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

DELICIOUS SUGGESTIONS

STUFFED CHERRY SALAD for a new and to-be-talked-about dessert. When you want something delicious and unusual—yet easy to prepare—serve this: Stone big, sweet canned cherries; then fill the centers with pecans or filberts. Serve on crisp lettuce, with mayonnaise to which whipped cream has been added. (Or with a cooked oil dressing.) It will be exclaimed over and *remembered.*



Of course canned sweet cherries are *always* a treat chilled and served as they come from the can. Or pitted and cut for fruit salads, too.

Can you imagine any tarts *easier* to make? And watch the family's faces light up when they taste them. *(Save extra juice for cake icing or sauce.)

CHERRY TARTS Bake shells on upside-down muffin tin. Bake small pie crust hatchets and cherries on a cooky sheet. Fill shells with canned red cherries (saving the juice)*. Sprinkle with sugar, flour, salt; and dot with butter. Pour a little cherry juice on each. Return to hot oven 10 minutes. Put a piecrust hatchet or cherry on each and serve.

Home Economics Department

AMERICAN CAN COMPANY

230 Park Avenue CANCO *New York City*

The Great Imitator

DR. THOMAS PARRAN, Surgeon General of the United States Public Health Service, has stated that a major objective of his administration is to stamp out syphilis. He reports that in the Scandinavian countries an aroused public opinion caused the governments to take effective measures which have reduced syphilis to negligible proportions. Less than 1600 new cases were found in Norway, Sweden and Denmark during the past year.

* * * * *

In the United States, according to the best evidence, there are more than a half million new cases of syphilis every year seeking medical care. Of these, only one in five gets into the hands of competent physicians soon enough to receive the full benefit of early and continued treatment.

In its early stages, this virulent infection can usually be completely cured by experienced, licensed physicians. Much can be done even for those suffering from the disease in its advanced stages. Syphilis is then "The Great Imitator." It may masquerade as heart, lung, throat or kidney trouble; as a form of skin disease or as rheumatism. It often attacks the brain or spinal cord. It may result in blindness, deafness, paralysis, or insanity.

Many persons are unaware of their infection. The disease may be passed unknowingly from one person to another. Fathers and mothers have infected their children in this way. Most tragic of all are its innocent prey, especially babies born with syphilis. Early and competent prenatal care of syphilitic mothers can prevent most cases of congenital syphilis—children born diseased, blind or deaf, or with crippled bodies or minds.

As a rule, syphilis cannot be diagnosed from outward signs alone, because often there are none. The presence of syphilis can be positively determined only by medical examination and laboratory tests. Too frequently its victims appeal to the medical charlatan and the quack who promise speedy and sure cures.

There is no quick nor short-cut method of curing syphilis. Treatments must be regular, usually weekly, for a period of many months. Because obvious signs and symptoms often disappear after a few treatments, many patients consider themselves cured and stop treatments. This may be an irreparable mistake. The full effects of the disease may not appear until years later. Only the doctor, with repeated blood tests as his guide, can determine when a cure has been effected.

Send for a free copy of the Metropolitan booklet, "The Great Imitator." Address Booklet Department 237-Z.

* * * * *

On February 3rd, 1937, the first National Social Hygiene Day, public health authorities and local organizations all over the country will discuss the control of syphilis. The American Social Hygiene Association, 50 West 50th St., New York, N.Y., will be glad to send literature and full particulars regarding the meetings.

Keep Healthy—Be Examined Regularly

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, Chairman of the Board LEROY A. LINCOLN, President

ONE MADISON AVENUE, NEW YORK, N. Y.

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GIVE THE DEAF CHILD A CHANCE

(Continued from page 133)

the market, but there is no instrument or device that will help those who are stone deaf, as I am. Modern medical men are doing wonders, but as yet no cure for deafness has been found. The bona fide deaf of the country hope that medical skill will some day bring hearing to them; but until the millennium arrives they will make the best of their condition and find happiness in the life that their Creator has prepared for them.

When a cure for deafness is discovered it will be proclaimed from the housetops, through the newspapers, magazines, over the radio and by television. In the meantime, do not pity the deaf, but give them a chance to live normal lives.

The following list gives the names and locations of the schools for the deaf in the United States and Canada:

Public Residential Schools in the United States

Alabama Institute for Deaf and Blind
Talladega

Arizona School for the Deaf and the Blind
Tucson

Arkansas School for the Deaf
Little Rock

California School for the Deaf
Berkeley

Colorado School for Deaf and Blind
Colorado Springs

Connecticut
American School for the Deaf
West Hartford (N. Main St.)
Mystic Oral School
Mystic

Columbia Institution for the Deaf
Kendall Green, Washington, D. C.
A. Kendall School for the Deaf
B. Gallaudet College

Florida School for the Deaf and the Blind
St. Augustine

Georgia School for the Deaf
Cave Spring

Idaho State School for the Deaf and the Blind
Gooding

Illinois School for the Deaf
Jacksonville

Indiana State School for the Deaf
Indianapolis

Iowa School for the Deaf
Council Bluffs

Kansas State School for the Deaf
Olathe

Kentucky School for the Deaf
Danville

Louisiana State School for the Deaf
Baton Rouge

Maine School for the Deaf
Portland (75-91 Spring St.)

Maryland
State School for the Deaf
Frederick
School for the Blind, Dept. for Colored Deaf and Blind
Overlea (3501 Taylor Ave.)

Massachusetts
Clarke School for the Deaf
Northampton
Beverly School for the Deaf
Beverly (6 Echo Ave.)
Boston School for the Deaf
Randolph (N. Main St.)

Michigan School for the Deaf
Flint

Minnesota School for the Deaf
Faribault

Mississippi School for the Deaf
Jackson

Missouri School for the Deaf
Fulton

Montana State School for the Deaf and Blind
Boulder

Nebraska School for the Deaf
Omaha (3223 N. 45th St.)

New Jersey School for the Deaf
West Trenton

New Mexico School for the Deaf
Santa Fe

New York
New York School for the Deaf
New York City (99 Ft. Washington Ave.)
Le Couteulx St. Mary's Institution for the Deaf
Buffalo (2253 Main St.)
Lexington School for the Deaf
New York City (904 Lexington Ave.)
St. Joseph's School for the Deaf
New York City (177th St. and Eastern Blvd.)
Central New York School for the Deaf
Rome (713 N. Madison St.)
Rochester School for the Deaf
Rochester (1545 St. Paul St.)
Northern New York School for the Deaf
Malone

North Carolina
State School for the Blind and the Deaf, Colored Dept.
Raleigh (Garner Rd.)
School for the Deaf
Morganton

North Dakota School for the Deaf
Devils Lake

Ohio State School for the Deaf
Columbus (450 E. Town St.)

Oklahoma
School for the Deaf
Sulphur
Deaf, Blind and Orphans' Institute
Taft

Oregon State School for the Deaf
Salem

Beauty Preparations by Luzier

•

It is our belief that cosmetic preparations should be selected to suit the individual's requirements. Our business was founded on this belief. For over a decade our sales organization has catered exclusively to the individual, helping her to select beauty preparations that are suited to her requirements. This practice is known as LUZIER'S SERVICE.

Only two claims are made for our preparations: 1, Quality of Ingredients, and 2, Suitability of Selection. Both claims are substantiated by a money-back guarantee. If after giving your Luzier preparations a thorough trial you are not in every respect satisfied with them, you may return them for exchange or a cash refund for the unused portion.

We want it clearly understood that we in no way undertake to treat skin disorders; in fact, if you are thus afflicted we had rather that you not use our preparations unless your skin specialist deems it advisable. We wish in every way possible to cooperate with the medical profession.

If you are unable to communicate with the Luzier Representative in your community, a letter to us will be forwarded to the manager of the territory in which you reside. We shall appreciate the honour of being at your service.

Luzier's, Inc., Makers of Fine Cosmetics
KANSAS CITY, MISSOURI

MY CHILDREN WERE ENTRANCED WITH THE IDEA OF PLAYING THE FASCINATING CLEAN HANDS HEALTH GAME —AND KEEPING THEIR OWN SCORE

NOW CLEAN HANDS ARE A HABIT WITH MY CHILDREN. AND HOW MUCH EASIER IT IS ON ME! AND HOW MUCH LESS ILLNESS WE'VE HAD SINCE WE'VE BEEN PLAYING THE GAME

Free TO EVERY MOTHER

USE the coupon below. Send for Wash-up Charts and school-size Lifebuoy for *your* children—under 12 years of age. 16,000,000 children have developed the *habit* of clean hands from this game—yours will, too! Remember, germs of 27 diseases are spread by hands alone . . . And the child who makes a *habit* of washing his hands—*always before meals* with Lifebuoy, is protecting his health. *For Lifebuoy removes germs as well as dirt!*

LIFEBUOY
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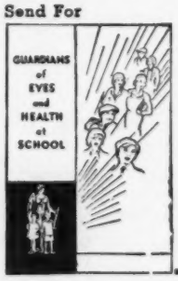

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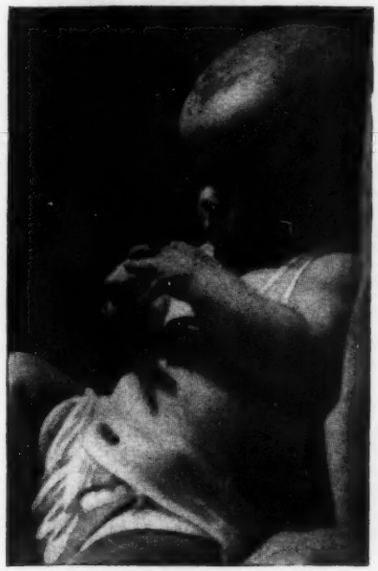

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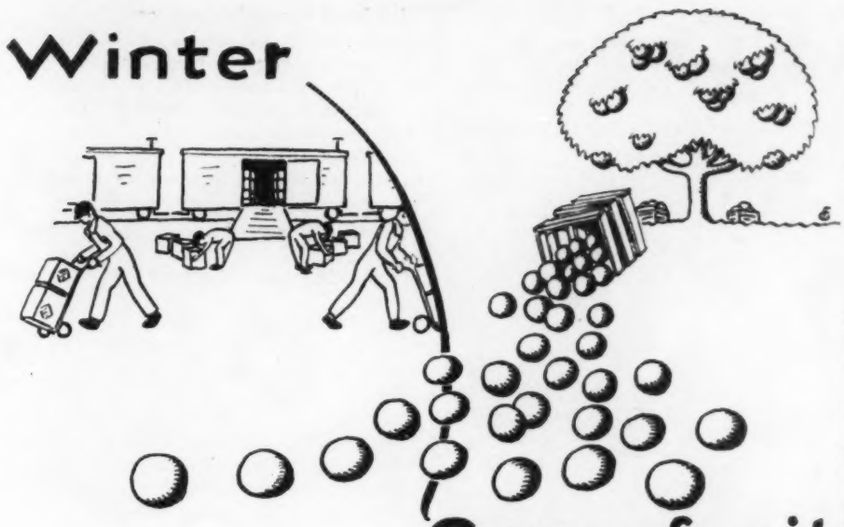

Two billion grapefruit will roll into market during the course of this winter in boxes, crates, trucks and tin cans, according to the U. S. Department of Agriculture. Florida and Texas, the biggest producers of this record crop, have been picking grapefruit since the first of September. California and Arizona began early in November.

Two years ago a heavy freeze caught the grapefruit in Florida and Texas and ruined much of the crop. These trees have now recovered and fortunately escaped any autumn hurricanes and freezes. Also, more trees have come into bearing during the last year or two to swell the estimated crop to nearly 28 million boxes, or approximately 2 billion individual fruits, according to federal estimates.

Grapefruit are no longer the bitter, thick skinned, sometimes pithy fruit of three or more decades ago. The grapefruit of 1936 is juicier, sweeter and more tender as a result of the superior types which are now grown. The bitterness which formerly characterized much of the fruit has disappeared. In selecting varieties that are juicy, tender fleshed, resistant to disease and well suited to transportation conditions, scientists have also propagated the seedless and the pink fleshed strains.

It is a fortunate coincidence of science that, just as the big grapefruit orchards were coming into bearing, nutritionists were discovering the rôle of vitamins in the human diet and the high potentiality of citrus fruit in this respect. Grapefruit, along with oranges and lemons, rate excellently in vitamin C and are fair sources of vitamins B and G. Moreover, in spite of its acid taste, grapefruit has not an acid but rather an alkaline reaction in the body.

If only for its vitamin C value, grapefruit would be a valuable food, since each year brings more convincing evidence that our need for a daily, dependable and generous supply of vitamin C is imperative. For the sake of variety, of course, it is preferable to get this vitamin from a number of sources.

Unfortunately vitamin C is sensitive to heat and to air, especially the two combined. So to the credit of the grapefruit, it is usually eaten raw, and unconsciously not only the flavor but also the vitamin content is being preserved if the fruit is opened and cut only a few minutes prior to eating. If the fruit is allowed to stand with cut surfaces exposed to the air, it is surprising, the chemists say, how much of the vitamin C will be lost.

A novel and altogether pleasing method of serving this fruit is achieved by broiling it. It takes only a few minutes to prepare, and its uses are varied. Some persons like hot broiled grapefruit with the meat course; some prefer it as an appetizer to start the meal, and others would serve it as a tart dessert at the finish. Many persons do not consider that they have started the day right if they do not have a broiled grapefruit for breakfast.

For preparation, it should be cut in half, and the core and seeds removed. Section it as you would for an immediate serving. Sprinkle generously with sugar, add a little butter if you wish for a richer flavor, and put it into a hot broiling oven under the heating unit just as you would a steak or a chop. Have

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Tutoring and vocational schools for boys and girls with educational or emotional difficulties. **Helena Devereux Fentress, Dir., or John M. Barclay, Reg., Box 90, Berwyn, Pa.**
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Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

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SPEECH CORRECTION for stammering, lisping, post operative cleft palate and other disorders. An ethical school.
SPECIAL SCHOOL for the exceptional child. Individual instruction. Rates reasonable. College trained teachers only.
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SPEECH DEFECTS
are usually correctable. FOR 64 YEARS we have successfully corrected stammering, stuttering, lisping, and other speech defects. Individual instruction. Write for descriptive booklet, or send $2 for text-book, "Stammering and its Treatment."
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HANKSCRAFT BOTTLE WARMER

HEATS BABY'S MILK JUST RIGHT
then turns off automatically
$1.00 Special Model
A boon to parents, a safeguard for babies. Water poured in base turns to steam, warming bottle. When water is gone, milk is at correct temperature. The quick, easy way to warm baby foods and vegetables. No coils, no moving parts. Completely safe and automatic. Endorsed by leading authorities. Special model shown above is finished in baby pink or blue. Standard model retails at $2.95; De Luxe Model, $5.00. Sterilizer for six bottles and nipples, $8.50. Buy from your department store, electrical shop, lighting company or drug store, or write direct to
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MADISON, WISCONSIN

CONCISE—AUTHORITATIVE—MATTER-OF-FACT —COVERS EVERYTHING
"A Child is to be Born"
Reprinted for expectant mothers from the series in "Hygeia"
Symptoms—Exercise Diet—Clothing 10c American Medical Assn. 535 N. Dearborn St., Chicago

BABY COMING?
See your doctor regularly. Ask him about Hygeia Bottles and Nipples. These wide mouth bottles are easily cleaned. Nipple is easily kept germ free. Don't take chances. These are safest . . .
ASK YOUR DOCTOR!

SAFEST BECAUSE EASIEST TO CLEAN
HYGEIA NURSING BOTTLES AND NIPPLES

the heat turned high; and in ten or fifteen minutes, flecks of brown will appear on the fruit, when it will be hot through and ready to serve.

Grapefruit will always be popular, whether it may be as a breakfast fruit or dinner appetizer, as a salad or as an agreeable touch of acidity to fruit cup or gelatin desserts. Also because of the quantity of pectin in the thick rind, grapefruit is an excellent marmalade maker. It can be used alone to yield a clear, jelly-like product; or one grapefruit, one orange and one lemon with sugar added may be used as the basis of the famous "amber" marmalade. Jellied grapefruit peel, soft and tender on the inside and coated on the outside with crystals of sugar, is another delicious method of serving.

Putting grapefruit into cans has widened its use considerably. Now the greater part of the less perfect fruit finds a ready market in canned form as sections or juice. Federal standards for canned grapefruit have already been set up, while grades for the canned juice, both sweetened and unsweetened, are under consideration.

There are many beverage uses for the canned juice in punches, cocktails and fruitades. Fresh grapefruit juice is also easy to serve because of the mechanical juicers on the market. Again mindful of the perishable nature of vitamin C, one must remember that grapefruit juice should be squeezed only a short time before it is wanted, and canned juice should not be allowed to stand uncovered in the refrigerator after the can is opened.

When shopping for grapefruit, many persons wonder whether the color is real or artificial. Dyed grapefruit is not common, according to the food and drug authorities. If grapefruit is legally mature, it may be treated with ethylene gas to remove the green coloring and reveal the natural yellow color of the skin. The flavor is not affected by this process.

If you pick out grapefruit with thin skins and balance them in your hand, you will find that those heavy for their size usually have the most juice. Grapefruit of good quality is well shaped, firm, but springy to the touch—not soft, wilted or flabby. Judge odd shaped fruit chiefly by weight. Those with pointed stem ends are troublesome to serve in halves. The discolored appearance of the outer skin known as "russeting" does not affect the flavor. But if there is even a small spot of decay, it will give an off-flavor throughout all the sections; so beware of any soft spots in grapefruit.

QUESTIONS AND ANSWERS

(Continued from page 176)

Abscesses in Teeth

To the Editor:—Is an abscess on the root of a tooth necessarily a source of infection to other parts of the body? Is there any way of knowing from an x-ray examination of the tooth whether it is carrying infection to any part or parts of the body? Does an abscess on the tooth heal or become dormant like tuberculous infection in the lungs? How can one know the condition of the abscess? When should a tooth be extracted if an x-ray picture shows an abscess? Should two teeth, otherwise sound, be extracted if the x-rays show that they contain abscesses but that the other teeth are all right?

S. W. M., Maryland.

Answer.—An abscess on the root of a tooth is not necessarily a source for general infection, but abscessed teeth are a potential source of infection, and innumerable patients are relieved of serious general diseases after the removal of such teeth. The pulpless tooth problem, now the subject of detailed research, will probably not be solved for some time to come; and since health and life are worth more than all the teeth in the mouth, persons should be informed of the possibilities for harm.

An x-ray examination will not indicate whether the tooth's poison is being carried in the blood stream.

The defense mechanism of the body sometimes walls off some alveolar abscesses with a tough fibrous sac. In this case the abscess might lie dormant until the patient's resistance becomes lowered, at which time the infection might break through the sac and enter the system. Some dental abscesses are never walled off and remain in constant contact with the blood stream. It is impossible to tell, either by use of the x-rays or by other means, which condition exists.

A diagnosis should not be made from the x-ray evidence alone. Because the x-ray picture cannot tell the whole story the doctor must thoroughly examine the mouth, obtain a history of the case and then act according to his best judgment.

It is impossible to say whether or not teeth should be extracted, without first examining the patient and ascertaining the condition of the mouth and his general health.

The preservation of health at 5 is of more importance than the preservation of health at 50.

TO GET FROM HERE TO THERE

"Dean of Magazines"

—Quickly

—Conveniently

—Comfortably

—Healthfully

At one time, and not so many years ago, as time flies, travel was a burden—slow, tedious and not conducive to bodily welfare.

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In the February issue the story of modern transportation and its development is told by such leaders as Walter Chrysler, Kermit Roosevelt of the United States Lines, Reginald Cleveland, aviation expert, I. B. Babcock of General Motors, J. J. Pelley of the Association of American Railroads, and others.

It is a dramatic and absorbing tale of recent developments and future trends. It is particularly significant as an indication of the developments in all fields of science because so many fields of science have contributed.

Each month thereafter a special Transportation section will keep you up-to-date in the science of travel. As always, Scientific American will keep you up-to-date on science in all fields of human endeavor.

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Maiden Form's "Remold" brassiere was created with the special purpose of raising sagging, "pendulous" busts to normal, well-uplifted lines. It accomplishes this by means of a cleverly constructed inner "shelf" of firm elastic which serves to mould as well as to hold the breasts. "Remold" is made in the bandeau style shown or with a wide band for diaphragm control.
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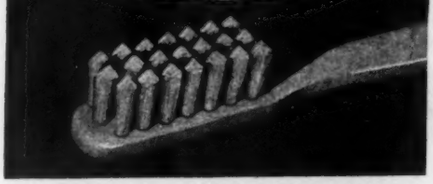

TAKAMINE

Your dentist recommends TAKAMINE Toothbrushes for best care of your teeth and gums. Quality bristles, scientifically spaced and tufted, cleans all tooth surfaces and massages gums. Despite low cost, no brush, however expensive, will outlast TAKAMINE.

TAKAMINE CORP., 132 Front St., New York City
If your druggist or department store cannot supply you, send 60c to us for INTRODUCTORY PACKAGE of 6 Standard TAKAMINE Toothbrushes.
NAME.....
ADDRESS.....
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SCHOOL AND HEALTH

(Continued from page 174)

in simple first aid measures. A knowledge of what to do when an accident occurs will keep a situation from growing worse, and it may be the means of saving a life.

The school is concerned with two problems in relation to first aid: first, provision for the proper handling of accident cases during school hours, and second, instruction for pupils in the treatment of common injuries.

There is evidence that in some schools strict regulations are not enforced as to the reporting and handling of accidents. Recently I heard an amazing report from a large suburban school. A boy was injured in a fall in the gymnasium. After a period of unconsciousness he was revived and said he felt shaky but otherwise all right. It was thought best, however, to send him home. He lived about a mile from the school, and he was allowed to walk this distance alone. Arriving home, again feeling faint and ill, he found his mother away and the house locked. Too weak even to walk to a neighbor's, the boy fell unconscious on the porch and lay there for a considerable time before a passerby came to his aid.

Such negligence on the part of school authorities is unthinkable, and undoubtedly there was in this case some failure to report the accident to the proper person.

In large city schools where there is a nurse constantly on duty and a doctor available at short notice the treatment of an injured or ill pupil is a simple matter. Where there is only occasional nursing service it is important to have one or two teachers thoroughly trained to give first aid. Also, older pupils make capable first aiders though they should not be given entire responsibility for handling accident cases.

The principal will find it advisable to post in the classrooms, corridors and elsewhere definite instructions as to reporting accidents, so that there will be no delay, misunderstanding or failure to give the right treatment. In the absence of professional nursing service these precautions should be observed:

In case of severe injury, resulting in broken bones, loss of consciousness or continuous bleeding, send for the nearest doctor at once. (A list of several doctors may well be posted near the telephone.) Notify the parents.

Never allow an injured pupil to return home unescorted. If the parents cannot be reached by telephone and asked to come for the child, a teacher or an older pupil may accompany him, making sure that there will be some one at home to give the child proper care.

First aid treatment should be in accordance with the orders of the school doctor, local board of health or local medical society. Teachers should follow these orders explicitly and not experiment with treatment they think might work better.

First Aid Equipment

When the school is fortunate enough to have a well equipped first aid room, there is no special need for keeping first aid supplies elsewhere in the building. However, in many schools where there is no regular nurse on duty, it has been found advisable to have a first aid kit on every floor or in each classroom. A visiting nurse demonstrates to teachers and pupils the application of simple first aid remedies.

The classroom first aid supplies are few in number: gauze bandages, triangular bandages, absorbent cotton, adhesive tape, safety pins, scissors, toothpicks, alcohol, iodine and an enamel basin. They should be kept in a cabinet or in a box with a tight cover. It is best to purchase supplies in small quantities so that they will always be fresh.

Instructing Pupils in First Aid

Lower Grades

With young children it is advisable not to go too deeply into the subject of first aid. They need to know only a few simple facts, and they should be encouraged to undertake only the simplest treatment for small injuries. The following outline will suggest topics for discussion and for classroom demonstrations:

1. The presence of germs on the skin.
2. How germs enter an open wound.
3. Why wounds should be kept clean.
4. What to do when an accident happens.
   a. Always tell an adult about it.
   b. Learn how to use the telephone.
   c. Act quickly; a delay makes an injury more serious.
5. How to give first aid.
   a. For burns and scalds.
   b. When clothing catches fire.
   c. When a person is overcome by gas.
      (1) From stoves and heaters.
      (2) From gasoline engines.
   d. When a person is drowning.
   e. For electric shock.

(Continued on page 190)

ACCEPTED FOODS

This department is a useful guide in the selection of foods of quality, advertised with truthful claims. All products in this section as well as any others advertised elsewhere in HYGEIA stand accepted by the Council on Foods of the American Medical Association, and are entitled to bear its "Seal of Acceptance." The foods listed here are but a portion of those accepted by the Council. If you desire information regarding any other food product, you are invited to write to HYGEIA.

WHOLESOME! DELICIOUS!

Durkee's

Purely American Vegetable Margarine, an "All-American" product, is nutritious, satisfying, an ideal food for cooking, baking, frying and general table use.

Ask Your Grocer for Durkee's Margarine

Durkee Famous Foods
Chicago, Ill. Norwalk, Ohio

THIS TOMATO JUICE IS NEVER THIN OR WATERY
High retention of nutritional values because made by patented process. The Sun-Rayed Co., Frankfort, Indiana.

WHITE BREAD

An interesting set of questions and answers in booklet form. A copy may be obtained free by request to the

AMERICAN INSTITUTE OF BAKING
1135 Fullerton Avenue . . . . Chicago

Golden State EVAPORATED MILK

California's own brand

Golden State Company, Ltd.
SAN FRANCISCO — LOS ANGELES

A GOOD MILK FOR THE BABY

● Ask your family doctor about White House Brand Evaporated Milk for baby's feeding formula. And use it in cooking—wherever your recipes call for milk. See page 191 for details.

SOLD BY A & P STORES

Saves Work for Mothers

Why go to the trouble of cooking and straining vegetables for baby when, for only a few cents a day, you can feed Gerber's Strained Vegetables? 9 foods to choose from. See page 190.

GERBER PRODUCTS CO.
Fremont, Mich.

Do You Know—

1. What the approximate number of deaf persons is who are living now in the United States? *See page 130.*
2. When George Washington died? *See page 140.*
3. Why the amount of liquid which a person consumes with his meal should be strictly limited? *See page 126.*
4. What the best natural source of vitamin D is? *See page 162.*
5. Whether diabetes is transmitted by germs? *See page 168.*
6. How to select the best grapefruit? *See page 185.*
7. What the experimental steps were in the discovery of insulin for the treatment of diabetes? *See page 122.*
8. What is ideal weight? *See page 141.*
9. How to tell whether a cross-eyed person is nearsighted or farsighted without subjecting him to an examination? *See page 144.*
10. How many automobile deaths there were in 1935? *See page 118.*
11. Who was François Magendie? *See page 153.*
12. The only safe and sane method for removing superfluous hair? *See page 112.*
13. A good definition of health? *See page 104.*
14. What alkalosis is, and how it may be successfully overcome? *See page 164.*
15. How large a gallstone may become, and what causes one to form? *See page 116.*
16. What the different sizes of prunes are? *See page 136.*
17. Which foreign hospital holds the world's title for the longest record of continuous service? *See page 159.*
18. If there is a possibility of acquiring lead poisoning after eating a shot pellet in canned game? *See page 176.*
19. Who was Dr. Samuel A. Mudd? *See page 110.*
20. When did Richard Bright live, and what is the nature of the disease that bears his name? *See page 151.*

IF BABY EATS LESS than AMOUNT PRESCRIBED

—change to wheat cereal favored with toasted malt. Malt-O-Meal appeals to an infant's appetite. Hence helps get baby to eat the required amount. Malt-O-Meal has been awarded the seal of acceptance of the Council on Foods of the American Medical Association. Try Malt-O-Meal for baby's next feeding. Usually it induces the child to eat more—eat more eagerly. At your grocers. Campbell Cereal Co., Minneapolis.

MALT-O-MEAL

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FREE! FACTS ON INFANT FEEDING

Now, for the first time, every mother can get—without charge—H. J. Heinz Company's valuable booklet, "Modern Guardians of Your Baby's Health". In concise form it contains authoritative information about vitamins, minerals, and other nutrients your baby needs! Read what to do for underweight—over-weight—and how to put variety in baby's diet. No modern mother should be without this excellent little volume filled with scientific facts and helpful suggestions. Send for your free copy today. Address: H. J. Heinz Co., Dept. H102, Pittsburgh, Pa.

Child problems, homemaking on *Heinz Magazine of the Air,* half-hour radio program—Mon., Wed., and Fri., 11 a.m. E. S. T., Columbia Network.

57

11 KINDS

HEINZ STRAINED FOODS

"I WANT HOME GROWN VEGETABLE SOUP!"

the kind that Gerber's makes!

"Say, mother, we'd need our own garden to get fresh, *Home Grown* Vegetables like the Gerber folks use in their vegetable soup!

"And even then, our vegetables wouldn't be as good as Gerber's, for theirs are grown from special pedigreed seed in extra-nourishing soil. When the vegetables are ripe and just right, they rush 'em to the big shining Gerber kitchens nearby so they have no time to lose the food values that make them so good for me.

"You ought to see the way Gerber's prepare those *Home Grown* Vegetables! After scientific straining, the vegetables are cooked in an exclusive Gerber way that preserves, to a high degree, the vitamins and minerals that you are apt to lose when you cook for me at home. Gerber's *Shaker-Cooking* means faster and more even cooking, too. I wish I had some Gerber's right now!" ***Gerber's Strained Vegetable Soup*** is a well-balanced combination of strained carrots, peas, spinach, rice, barley, beef, tomatoes and celery.

Gerber's

Shaker-Cooked Strained Foods

STRAINED TOMATOES, GREEN BEANS, BEETS, CARROTS, PEAS, SPINACH, VEGETABLE SOUP. ALSO, STRAINED PRUNES AND CEREAL.

8 *in. high*

Give Your Baby This Fine Stuffed Doll

Made of good quality stuffed sateen, boy doll in blue, girl doll in pink. Sent for 10c and 3 Gerber labels.

GERBER PRODUCTS CO. Fremont, Michigan 122

(In Canada, Gerber's are *grown and packed by* Fine Foods of Canada, Ltd., Tecumseh, Ontario.)

Name.....

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City.....State.....

Check items desired: ☐ Boy Doll ☐ Girl Doll. ☐ Mealtime Psychology, a free booklet on infant feeding. ☐ Baby's Book, on general infant care, 10c additional.

(Continued from page 188)

f. For cuts and scratches.
g. When poison is taken by mistake.

SUGGESTED ACTIVITIES FOR LOWER GRADES

Read or tell stories showing how various injuries were treated quickly and properly.

Invite pupils of the upper grades to give first aid demonstrations in the classroom.

Make a drawing of a first aid kit showing the few necessary supplies arranged in neat order.

Make a first aid poster.

If there is no first aid room in the school, pay a visit to another school where a nurse is on duty and can demonstrate treatment for various injuries.

UPPER GRADES

The history of the Red Cross suggests an interesting approach to a study of first aid in the upper grades:

1. The story of Henri Dunant and his work on foreign battlefields which led to the organization of the Red Cross in Europe.
2. Clara Barton and the organization of the American Red Cross.
3. Disasters and emergencies in which the Red Cross has given magnificent service.
4. The value of preparation for emergency; knowing the right thing to do and doing it quickly; having the proper equipment at hand.

As mentioned before, older pupils can be trained by a nurse, doctor or Red Cross instructor to give treatment for common injuries, including scratches, cuts, bumps and bruises, splinters, strains and sprains, nosebleed, foreign body in the eye, burns and fainting. They can make definite contributions to the school first aid program.

SUGGESTED ACTIVITIES FOR UPPER GRADES

1. Junior Red Cross activities.
2. Demonstrations during assembly periods.
   a. Treatment of the common injuries mentioned above.
   b. Artificial respiration.
   c. How to put out a clothing fire.
   d. How to treat cases of accidental poisoning.
3. Reports of first aid work done in the community.
   a. Red Cross.
   b. Police Department.
   c. Fire Department.
   d. Gas and electric companies.
4. Preparation of a bulletin on the treatment of common injuries.

Dr. Phillips

CITRUS FRUIT JUICES

Recommended for Children

as a Source of Vitamins A, B and C

Dr. Phillips Orange and Grapefruit Juices and Grapefruit Hearts are uniformly rich in vitamin C and always full of flavor. **Tree-ripened,** they are canned fresh from the grove under the most modern scientific and sanitary conditions. Easy to serve at any time, anywhere. Get several cans today.

DR. P. PHILLIPS CO., Orlando, Florida

PLEASE SEE PAGE 97

What's in a Can of Canned Food?

Modern knowledge is shattering many false ideas about canned foods. Be sure to read the highly informative series of ads in HYGEIA on values of canned foods. See page 177.

AMERICAN CAN COMPANY, New York City

Babies Thrive on *Carnation* MILK

Many noted baby specialists prescribe this pure, nourishing super-digestible milk — irradiated for "sunshine" vitamin D. Why not ask your doctor about Carnation Milk for your baby? See page 192.

SEX EDUCATION BOOKLETS

By Thurman B. Rice, M.D. *Modern, without sacrificing fundamentals. Frank, but not sensational. Illustrated. Heavy paper covers.*

THE STORY OF LIFE
For boys and girls of ten. 36 pages

IN TRAINING
For boys of high schoo age. 48 pages

HOW LIFE GOES ON AND ON
For girls of high school age. 38 pages

THE AGE OF ROMANCE
For both sexes of college age. 44 pages

THE VENEREAL DISEASES
For college age or older. 40 pages

25c a copy. Complete set of 5 in filing case $1.00

American Medical Association
535 North Dearborn Street, Chicago

ries, this to be mimeographed, if possible, and sent to the homes of the pupils. (Follow standard treatment in American Red Cross First Aid Text Book. Price, 60 cents. Philadelphia: P. Blakiston's Son & Co.)

There is no better time to teach a safety lesson than in an actual accident situation or immediately following it. Both minor and serious injuries to pupils can be used as a basis for valuable teaching. What was the pupil doing when he was hurt? Was he violating some safety rule of the school? Was he careless, or was ignorance the cause of the accident? Was he given prompt and adequate treatment? Can anything be done to prevent the occurrence of similar accidents?

In finding the answers to these questions the safety and first aid lessons will be emphasized and reemphasized, and they will carry over to the home.

Two other publications on first aid are available through the Education Division of the National Safety Council, 1 Park Ave., New York: Artificial Respiration, a leaflet giving instructions for applying the prone pressure method of resuscitation (price, 2 cents) and First Aid Reminders, directions for the care of minor and serious injuries (price, 10 cents).

ROCKEFELLER'S HEALTH RULES

John D. Rockefeller Sr., who reached 97 years of age last July, states that since his youth he has observed the following ten rules for health:

1. Never lose interest in life, business and the outside world.
2. Eat sparingly and at regular hours.
3. Get plenty of exercise but not too much.
4. Get plenty of sleep.
5. Never allow yourself to become annoyed.
6. Set a daily schedule of life, and keep to it.
7. Get a lot of sunlight.
8. Drink as much milk as will agree with you.
9. Obey your doctor, and consult him often.
10. Don't overdo things.

—*Health.*

Headaches may be caused by trouble with the eyes or kidneys, by high blood pressure or a number of other causes, more or less obscure. Pains are often remote from the location of the real cause of pain.

THERE IS NONE BETTER FOR THE BABY*

ACCEPTED AMERICAN MEDICAL ASSN

*There is no better evaporated milk than White House. It's real milk made double rich by evaporating away one-half its natural water content. To use it as you would bottled milk, simply add White House part for part with water.

*Ask your family doctor about White House Evaporated Milk for baby's feeding formula. And use it in cooking—wherever your recipes call for milk.

Sold by A&P FOOD STORES

A&P FOOD STORES

Try Heinz Double-Sure Strained Foods for Baby

You know Heinz quality in foods. You can have this same high standard in strained foods for baby. Insist on Heinz. Send for valuable baby diet book featured on page 189.

H. J. HEINZ CO., Pittsburgh, Pa.

Church's Pure Natural Grape Juice •

made from properly ripened grapes. Contains no added sugar, water or other substance whatsoever.

Free from the excess acid of unripened fruit.

Church Grape Juice Company, Kennewick, Wash.

ASSURED HIGH QUALITY

C·H·B CALIFORNIA HOME BRAND

Tomato Juice
Tomato Catsup
Chili Sauce

WHEATIES •

Make youngsters eat big breakfasts—start them off with a heaping bowl of Wheaties, the new whole wheat cereal. Nutritious and delicious. At your grocer. See 3rd Cover.

DO YOU LIKE GOOD CREAM CHEESE?

HAVE YOUR DEALER SHOW YOU THE NAME

Breakstone's

WHEN HE CUTS YOUR ORDER

A New Picture of GINGER ALE
MADE WITH
CLOVERDALE
Pure WATER SPARKLING
Here's new sparkle and freshness in GINGER ALE! Made with the famous CLOVERDALE Pure Mountain Water, direct from an 1800 ft. deep Artesian well. Available in both Pale Dry, and Amber. CLOVERDALE also makes an equally invigorating Sarsaparilla. If not yet on sale in your community write for details.
CLOVERDALE SPRING CO.
Office: Baltimore, Md. Plant: Newville, Pa.
FROM THE BLUE RIDGE MTS

Try Shopping Among HYGEIA Advertisements

Is *your* baby as contented as this one?

Contentedness in babies is so easy to promote, because it comes from such simple things as comfortable clothing, plenty of rest, and *good nourishing food.* And good nourishing food does more than produce contentment—it helps tiny, soft bodies to develop into strong, sturdy ones.

In so many cases—the Dionne Quintuplets are just one of many thousands—Irradiated Carnation Milk has been found by leading physicians to be the best form of milk for bottle-fed babies. They thrive on it. It is so pure, so uniform, so nourishing. It is scientifically heat-treated and homogenized. In the baby's stomach, it forms soft, flaky curds, like mother's milk, and is much more readily digested than ordinary milk. And homogenization breaks up the fat particles into millions of small ones, for easier assimilation.

Because Carnation Milk is *irradiated*—enriched with "sunshine" vitamin D—it helps your child to develop strong, straight bones and fine, sound teeth. Because it is thoroughly sterilized and comes only in air-tight cans, it guards against germs that are sometimes carried by milk. And the fact that it is accepted by the American Medical Association's Council on Foods is another proof of its *quality* and *safety.*

Ask your doctor about a Carnation Milk formula for your baby. Then ask your grocer for this good milk. And see for yourself how it builds "contented babies."

IRRADIATED
Carnation Milk
"FROM CONTENTED COWS"

WRITE FOR FREE BOOKLET

"The Contented Baby" tells all about this excellent milk, how good it is for infants, children, and all the family. It includes, too, several recipes for nourishing dishes in which milk plays an important part. Mail the coupon for your copy of this helpful 32-page color-illustrated book.

Carnation Company, Milwaukee, Wis. Hy 237
(*or* Carnation Company, Ltd., Toronto, Ont.)
Please send me free copy of booklet, "The Contented Baby."

Name.....

Address.....

City..... *State*.....

WHAT ABOUT SCURVY?

Scurvy is not a germ disease; therefore it is not contagious. This is a nutritional disease that is caused by the lack of a certain extremely necessary element in the diet, according to the *Bulletin* of the Maryland Department of Health. This element is vitamin C, and it is found in orange and tomato juice in rich and abundant quantities.

A person starts out on the voyage of life equipped as a baby with a certain amount of the scurvy-preventing vitamin in reserve. But as this is consumed in the body the stock must be replenished. This supply must be carefully watched in infancy, because if it runs low the baby is restless and fretful and begins to show the characteristic symptoms of scurvy. As the disease progresses the bones and joints, the gums and other parts of the body become involved. Intense pain and suffering accompany this condition, and it is often mistaken for rheumatism.

To escape scurvy it is essential that orange or tomato juice be taken regularly. Babies who are nursed by their mothers get in the mothers' milk a certain amount of protection against the disease, but they need additional protection. Bottle fed babies are not protected against it, and so it is essential that the protective fruit juice be added to their diet.

If orange juice is used, begin with a half tablespoonful of the juice diluted with an equal amount of water. The amount should be slowly increased until the baby is getting a tablespoonful twice a day. Strained tomato juice, either fresh or canned, is also effective as a protection against scurvy. If tomato juice is used, begin with 1 tablespoonful of the juice and increase gradually to 2 tablespoonfuls. No water need be added to the tomato juice. The fruit juice should be given between the other feedings. Cod liver oil, which is necessary for babies to insure normal growth, does not protect them against scurvy.

JAUNDICE

Jaundice, yellow color under the skin, is either toxic or obstructive. If toxic, it means that too many red blood corpuscles are broken down into the colored material which is found in the bile, and the condition is definitely in the nature of poisoning. The jaundice caused by obstruction is due to blocking of the bile passages between the liver and the intestines which throws bile pigments into the blood. It is often a symptom of gallstones.